Environment Canada | Environnement Canada

A REVIEW OF EXISTING AND HISTORICAL OCEAN DUMP SITES IN THE PACIFIC REGION

ENVIRONMENT CANADA
ENVIRONMENTAL PROTECTION BRANCH

PACIFIC AND YUKON REGION

Regional Program Report: 80-5

April 1980 Reprinted March 1999

Canada

103-05670/

A REVIEW OF EXISTING AND HISTORICAL OCEAN DUMP SITES IN THE PACIFIC REGION

ENVIRONMENTAL PROTECTION SERVICE
ENVIRONMENT CANADA
PACIFIC REGION

Regional Program Report No. 80-5

Prepared by:

A.B. Ward
D.L. Sullivan

April 1980

Modified and Reprinted 1998

ABSTRACT

The Ocean Dumping Control Act of Canada was promulgated on 13 December, 1975. This legislation was created to regulate the deliberate disposal of any substance from ships, aircraft or man-made structures in Canadian territorial waters and all Canadian vessels anywhere in the world. It does not apply to discharges from land-based sources, the dumping of materials for construction purposes, disposal that is incidental to the normal operations of ships and aircraft, or discharges that are incidental to the exploration for or exploitation of off-shore processing of seabed mineral resources.

Following this legislation, Environmental Protection Service researched and documented all available information on past and present ocean dumping activities to identify the scope of these activities in the Pacific Region and to assist in the designation of areas as official dump sites.

This report includes all available information on historical dumping in the Pacific Region to 31 December, 1979.

RÉSUMÉ

La loi sur l'immersion des déchets en mer a été promulguée le 13 décembre 1975. Elle vise à reglementer le déversement délibéré de toute substance dans les eaux territoriales canadiennes à partir d'un navire, d'un aéronef ou d'un engin construit par l'homme et, partout dans le monde, à partir d'un navire canadien. Elle ne s'applique pas au rejet de substances à partir de la terre ferme, à l'immersion de matériaux de construction, au déversement qui résulte de l'opération normale d'un navire ou d'un aéronef, de l'exploration de fonds marins ou de l'exploitation des ressources minières qui s'y trouvent.

S'inspirant de cette loi, le Service de la protection de l'environnement a recherché et rassemblé toute la documentation pouvant se rapporter aux déversements qui ont eu lieu dans le passé et qui ont lieu actuellement, dans l'océan, afin d'en déterminer l'ampleur en ce qui concerne le Pacifique et d'aider à déterminer quels secteurs pourraient être choisis officiellement comme points d'immersion.

Ce rapport contient toute la documentation obtenue sur les opérations de déversement qui ont pu avoir lieu dans la période historique antérieure au 31 décember 1979.

ACKNOWLEDGEMENTS

Ms. Ward would like to acknowledge the help of Department of Environment staff during the preparation of the draft report. She would also like to thank the Fisheries and Oceans' Department of Public Works and Department of National Defense personnel who assisted her. The cooperation and information from dredge companies and other organizations was greatly appreciated.

Ms. Sullivan would like to thank H. Nelson, D. Brothers and C. Zaraspe for their assistance during the final preparation of this report.

TABLE OF CONTENTS

		Page
Abstract		i
Résumé		i
Acknowledgements		ii
Table of Contents		iii
	List of Figures	iv
1.0	Introduction	1
	1.1 Ocean Dump Sites	1
2.0	Dredging and Dumping Activities	7
	2.1 Dredging Activities	7
	2.2 Loading and Dumping Equipment	7
	2.3 Sources of Material Disposed at Sea	8
	2.3.1 Forest Products Industry	8
	2.3.2 Channel Maintenance for Navigation	8
	2.3.3 Miscellaneous Dumping	8
3.0	Administration of the Ocean Dumping Control Act	10
	3.1 Permit Applications	10
	3.2 Restrictions on Dredging and Ocean Dumping	12
	3.3 Environmental Assessment	13
	3.4 Enforcement of the ODCA	13
References		14
Appendices		15
	Appendix I Total Quantities Disposed of at Existing and Historical Dump Sites	16
	Appendix II Active and Inactive Dump Sites Located in British Columbia Cosaastal Waters	24
	Appendix III Abbreviations	86

LIST OF FIGURES

		Page
Figure 1.	Location Map	2
Figure 2.	Ocean dump sites - Southern Vancouver Island and B.C. South Coast	3
Figure 3.	Ocean dump sites - Northern Vancouver Island and B.C. Central Coast	4
Figure 4.	Ocean dump sites - Queen Charlotte Islands and B.C. North Coast	5
Figure 5.	Ocean dump sites - isolated incidents	6
Figure 6.	Ocean dump site - Pauline Cove, Herschel Island	9
Figure 7.	Major ocean dump sites in British Columbia	11

1.0 INTRODUCTION

The Ocean Dumping Control Act became law in Canada in December 1975, thereby placing controls on the disposal of wastes at sea. Environment Canada was designated to administer the Act and to establish a Permit System to regulate disposal from ships, aircraft, platforms and other man-made structures at sea, and the disposal of substances considered harmful to the marine environment under special circumstances.

The west coast of Canada (Figure 1) is characterized by rugged topography with heavy precipitation which does not readily lend itself to suitable land fill sites. Where flat land is available it is often associated with sensitive habitat areas such as estuaries and river valleys which would be vulnerable to pollutants leaching from land-dumped materials. The geographic features which limit the number of land fill sites in British Columbia also provide environments suitable for marine disposal. The numerous inlets on the B.C. coast are generally very deep (>200 metres) and are usually fed by creeks and rivers which promote good circulation and flushing of the marine waters. The presence of a sill near the mouth of certain inlets reduces adequate deep water exchange and has negative implications for the siting of ocean dump sites. Impact studies conducted in the vicinity of approved ocean disposal sites have thus far indicated minimal deleterious effects on the resident biological communities and no significant elevation in the concentrations of trace contaminants in sediments.

1.1 OCEAN DUMP SITES

The B.C. coastline has been divided into four regions in order to catalogue the incidents of ocean dumping. The regions are Southern Vancouver Island and B.C. South Coast (Figure 2; dump sites 1-66), Northern Vancouver Island and B.C. Central Coast (Figure 3; dump sites 67-92), Queen Charlotte Islands and B.C. North Coast (Figure 4; dump sites 93-106) and isolated incidents of dumping (Figure 5; dump sites 107-110). Information pertaining to each dump site is contained in Appendix III.

A record of the dumping which has occurred under permit at designated dump sites is contained in the dump site summary in Appendix I.

Estimates of total cubic metres of material dumped at existing and historical dump sites is contained in Appendix II.

Figure 1. Location map.

Figure 2. Ocean dump sites - Southern Vancouver Island and B.C. South Coast.

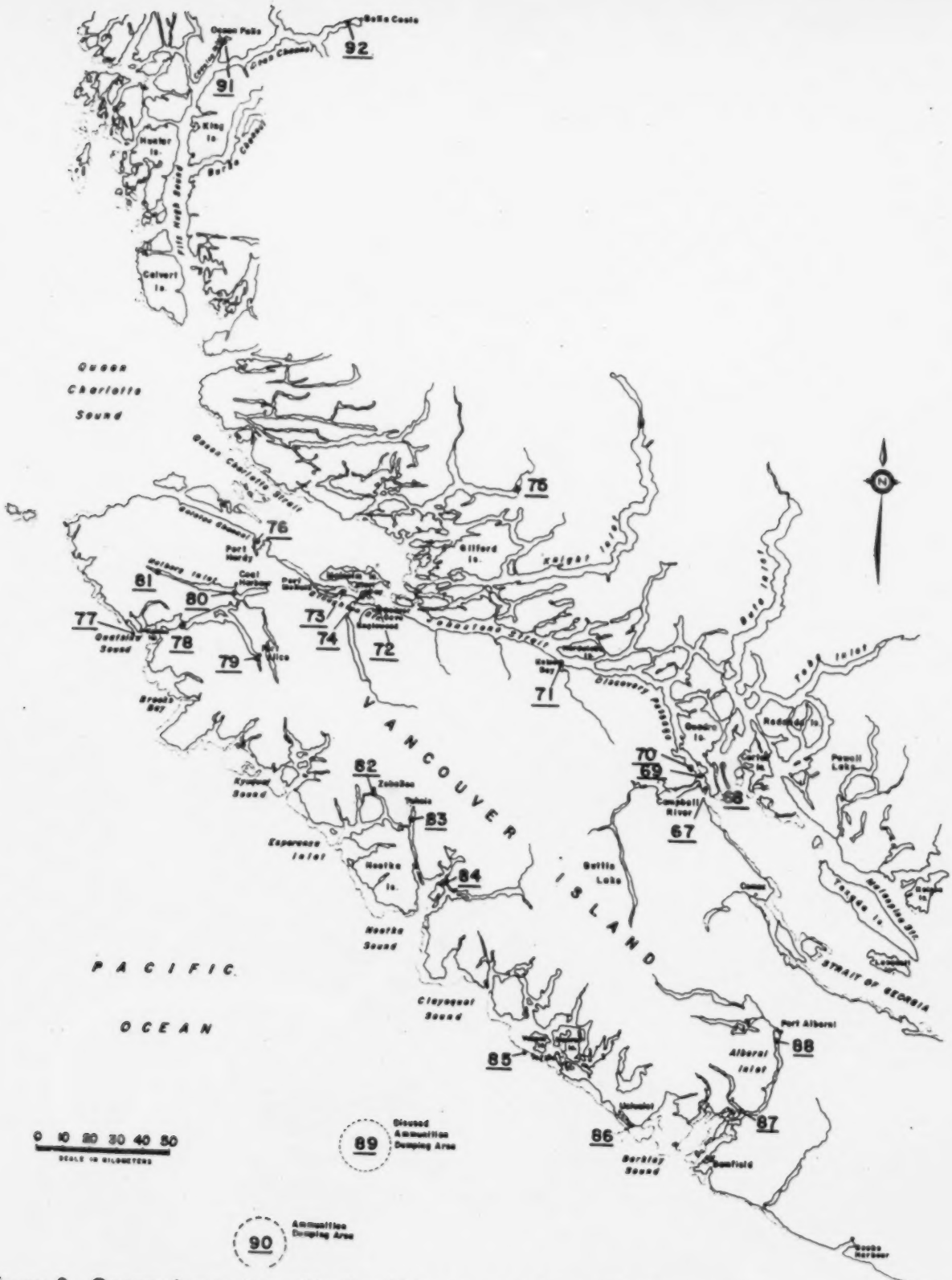

Figure 3. Ocean dump sites - Northern Vancouver Island and B.C. Central Coast.

Figure 4. Ocean dump sites - Queen Charlotte Islands and B.C. North Coast.

Figure 5. Ocean dump sites - isolated incidents.

2.0 DREDGING AND DUMPING ACTIVITIES

2.1 DREDGING ACTIVITIES

Ocean disposal has taken place in British Columbia since the turn of the century. The first recorded dumping occurred in Prince Rupert in 1908. In Victoria and Vancouver, ocean disposal sites were identified and used as early as 1920-1930. In smaller communities and isolated locations on the coast, a 36 metre depth nearest to the dredging site was generally considered adequate as a dump site.

Most of the material dumped at sea today is spoil from dredging activities. In B.C. the major requirement for dredging and dumping comes from operations related to the forest products industry. Maintenance of navigable waterways, berthing areas, log storage facilities, etc. require periodic dredging. Channel maintenance necessitated by seasonal sediment loading in river constitutes another major source of dredge material in the province. In addition, dredging and dumping operations are often required for construction, maintenance, and improvements to harbours, marinas, bridges, loading docks, ferry terminals, etc.

2.2 LOADING AND DUMPING EQUIPMENT

In B.C., dredging is carried out by all conventional types of equipment including pipeline suction plants, suction hoppers, clamshell dredges and bucket dredges.

Suction dredge equipment is generally used for homogeneous sediments of silt and sand such as found in the lower Fraser River and Vancouver Harbour. This material is often disposed of at landfill sites, however large amounts of unsuitable or unwanted dredge spoil are disposed of at ocean dump sites.

Clamshell and bucket dredge equipment is used for sediments mixed with wood debris and other forms of refuse which preclude suction dredging. This type of spoil usually originates near sites related to the forest products industry and is loaded on scows or barges for disposal at some alternate location. The material frequently contains high organic levels and other pollutants which may render it unsuitable for landfill where it is susceptible to leaching.

Scows loaded with material for ocean disposal are usually towed to a designated site where a front-end loader empties the scow. A few self-dumping scows also operate on the B.C. coast, however these are considerably more expensive to construct and are restricted by the type of material to be dumped. Dredge spoils which tend to bind together are not suitable for this method of dumping.

2.3 SOURCES OF MATERIAL DISPOSED AT SEA

2.3.1 FOREST PRODUCTS INDUSTRY

Dredging is frequently required in log storage and sorting areas at forest products facilities and industries to maintain berthing facilities and navigable channels. The nature of the material from these sites generally makes it unsuitable for landfill or construction purposes due to the high organic content, the possibility of toxic leachates, and the presence of other pollutants. Wood debris, fibre and sediment are loaded onto barges by clamshell or bucket dredge equipment and disposed of at ocean dump sites. If potential leachates can be contained, or are of minimal concern, the dredge spoil may be disposed of at a landfill site.

2.3.2 CHANNEL MAINTENANCE FOR NAVIGATION

The heavy annual sediment load carried down rivers, particularly the Fraser River, requires that dredging for channel maintenance be conducted at certain times throughout the year. Harbours, marinas, bridges, wharves, ferry terminals and berthing areas may also require periodic dredging to maintain a minimum acceptable depth. Routine dredging at these sites is generally completed by suction hopper or suction pipeline dredge equipment and much of the dredge spoil is disposed of at landfill sites.

2.3.3 MISCELLANEOUS DUMPING

In addition to the recurring dredging and dumping requirements of the forest products industry and the maintenance of navigable waterways, there have been Ocean Dumping Permits issued for several isolated incidents of dumping which should be noted. Emergency dumping of caustic soda, quicklime, chlorine and vanillan black liquor has occurred on the coast since 1950. The existence of the Ocean Dumping Control Act insures that disposal of toxic chemical or dangerous material at sea as a result of an emergency, or isolated incidents of dumping, can be regulated and controlled. Between 1974 and 1976, the Rayonier Canada Ltd. pulp mill at Port Alice, B.C. was permitted to dump spent sulphite liquor 5 km off Vancouver Island in an attempt to maintain dissolved oxygen levels in Neroutsos Inlet. In 1976, 902 000 kg of baroid ballast containing 66% toxic barium sulphate was discharged over several kilometres of open ocean to ensure adequate dilution.

In 1977 and 1978, an experiment was conducted involving the deposit of coal dust and salt on the ice surface near Herschel Island, Yukon (Figure 6), in an attempt to weaken the ice and allow for early breakup. In the winter of 1978, a

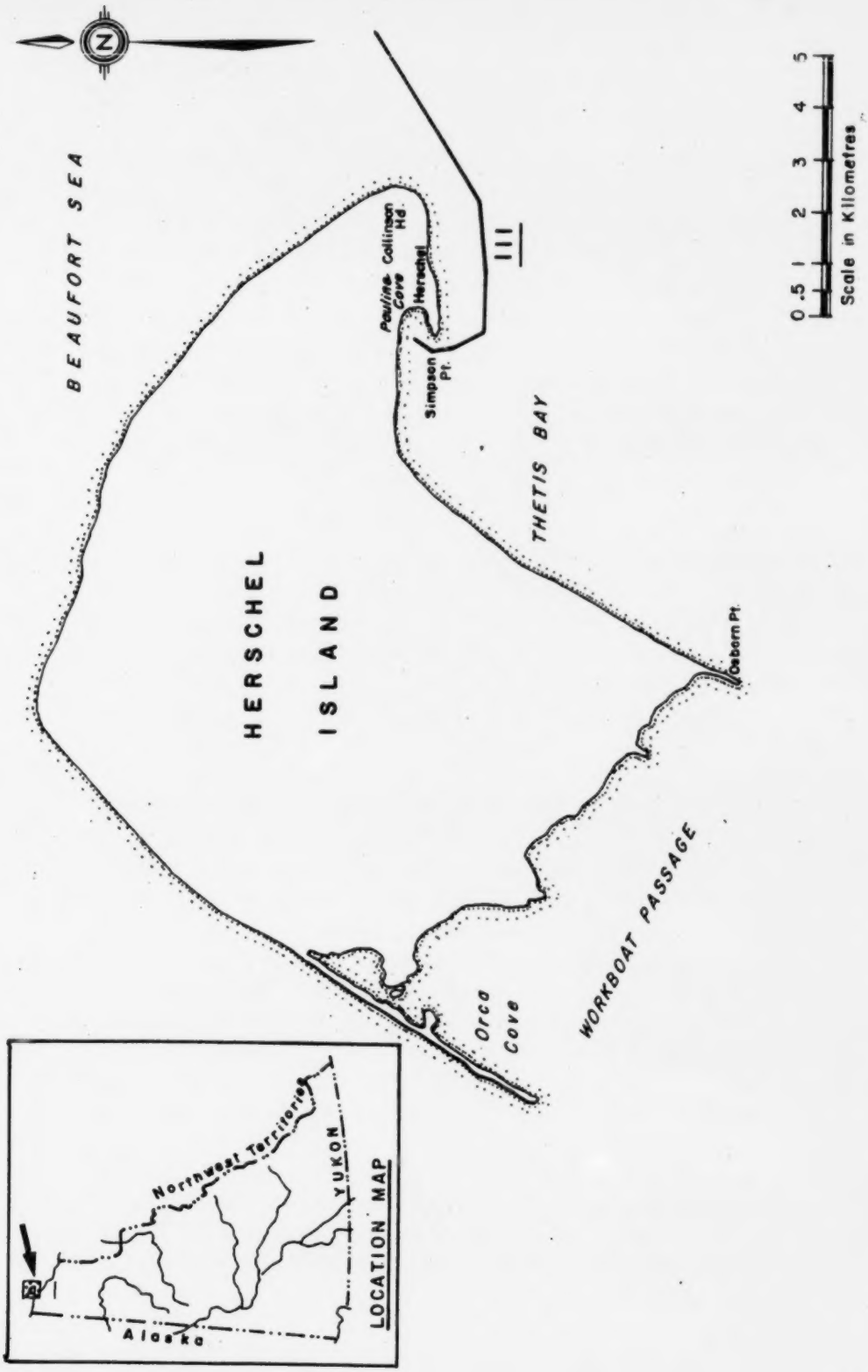

Figure 6. Ocean dump site - Pauline Cove, Herschel Island.

disabled fish boat belonging to the TAIHEIYO Fish Co. of Japan was towed to a location 160 nautical miles SW of Vancouver Island and sunk by demolition.

Very little information is available on the disposal of radioactive waste off the Canadian Pacific Coast. Radioactive waste disposal is no longer permitted in Canadian waters and disposal has recently been curtailed on the coast of the United States. All radioactive wastes are now disposed of by burning or at the Chalk River Nuclear Power Station.

3.0 ADMINISTRATION OF THE OCEAN DUMPING CONTROL ACT

3.1 PERMIT APPLICATIONS

Under the Ocean Dumping Control Act (ODCA), all materials to be dumped and/or loaded for the purpose of dumping at sea will require a permit. Application forms and additional information including a guide to the ODCA and a copy of the Act and Regulations are available from Environmental Protection Service, Kapilano 100, Park Royal, West Vancouver, B.C., V7T 1A2.

Application forms containing all pertinent information are submitted with the appropriate fee to the Permit Issuing Office where they are recorded on a National Database System and subsequently distributed to various Federal and Provincial agencies for review. The final assessment and evaluation procedures for each application are conducted by the Regional Ocean Dumping Advisory Committee (RODAC) which decides whether or not an Ocean Dumping Permit should be issued. This committee is comprised of three scientists who represent Environmental Protection Service (RODAC chairman), Fisheries and Marine Service, and Ocean and Aquatic Sciences, respectively. Final approval for permit issuance, based on the recommendations of RODAC, is indicated by the signature of the Regional Director of Environmental Protection Service on the Permit.

Should the application receive approval, a Permit is issued with various conditions stipulated, such as timing restrictions, dump site locations (Figure 7), quantity and type of material to be dumped, method of release, reporting requirements, etc. The Permits issued are effective for a maximum period of one year.

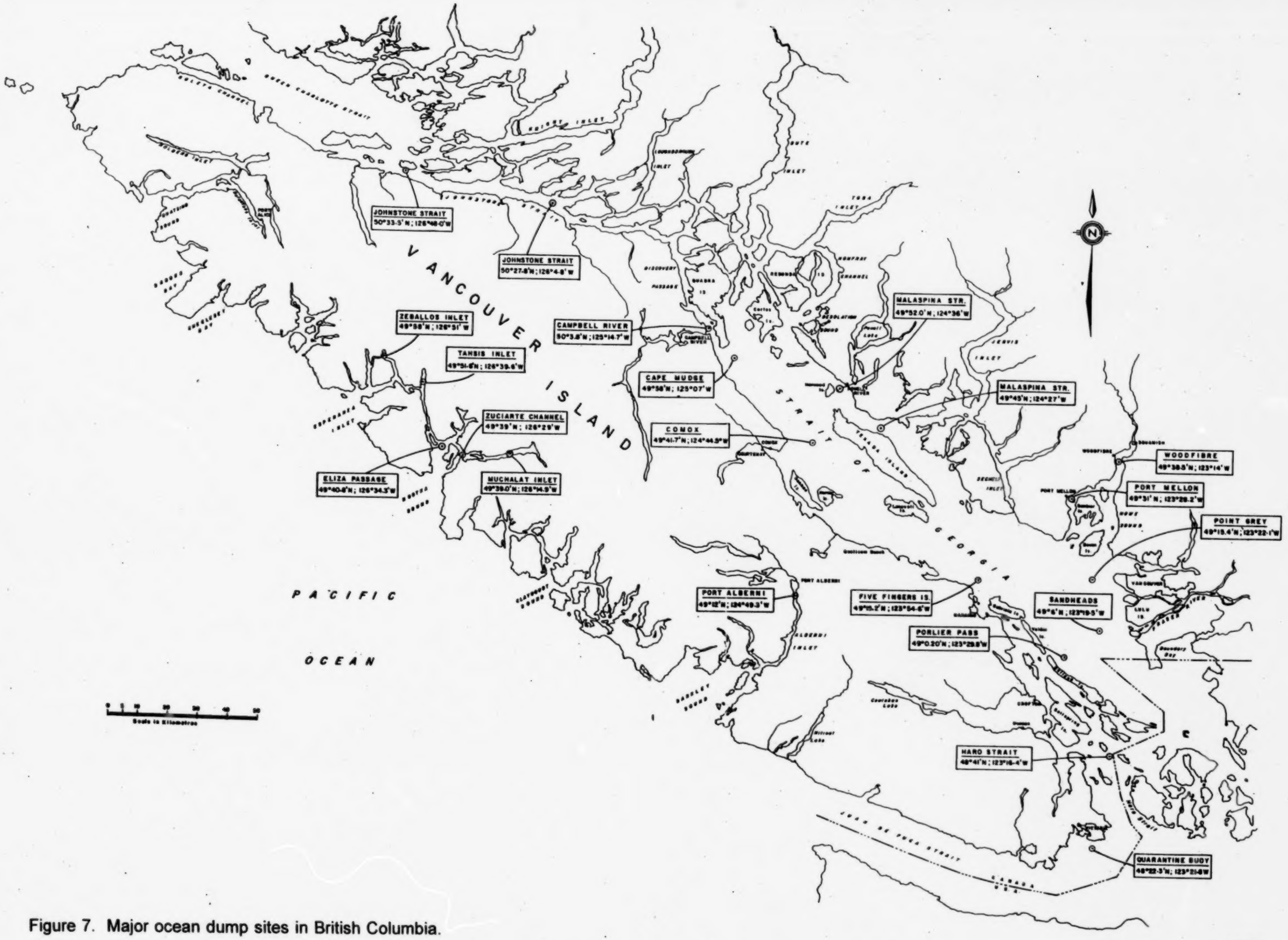

Figure 7. Major ocean dump sites in British Columbia.

1980

3.2 RESTRICTIONS ON DREDGING AND OCEAN DUMPING

The Department of Fisheries and Oceans imposes timing restrictions for dredging and dumping between various specified dates at certain locations on the coast. These restrictions are designed to ensure that the fisheries resources of a particular area are protected during sensitive periods. In the Lower Fraser River, clamshell dredging is subject to a site-specific review during the period March 1 to July 30. It is recommended that dredging of organic sediments (containing woodwastes) be scheduled during the period August 1 to March 1. In Vancouver Harbour and Burrard Inlet, dredging is prohibited from June 1 to July 15 to protect salmonids released from the Capilano Hatchery. It is recommended that clamshell dredging be scheduled from August 1 to March 1 in this area. In both areas—Lower Fraser and Vancouver Harbour—clamshell dredging of clean, inert and inorganic material is not restricted.

In accordance with the ODCA, certain substances are prohibited or restricted from ocean disposal. In Schedule I of the Act, certain substances are prohibited when present at concentrations exceeding those specified below:

a) organohalogen compounds, quantities shall not exceed 0.01 parts of a concentration shown to be toxic to marine animal and plant sensitive organisms in a bioassay sample and test carried out in accordance with procedures established or approved by the Minister;
b) mercury and mercury compounds in a solid phase of a waste, 0.75 milligrams per kilogram, and in the liquid phase of a waste, 1.5 milligrams per kilogram;
c) cadmium and cadmium compounds in a solid phase of a waste, 0.6 milligrams per kilogram and in the liquid phase of a waste, 3.0 milligrams per kilogram;
d) persistent plastics and other persistent synthetic materials, four per cent by volume, in a suitably comminuted form;
e) crude oil, fuel oil, heavy diesel oil and lubricating oils, hydraulic fluids and any mixtures containing any of them, any quantity that yields more than 10.0 milligrams per kilogram of n-hexane soluble substances;
f) high level radioactive wastes or other high level radioactive matter that may be prescribed;
g) substances in whatever form produced for biological and chemical warfare.

In Schedule II, the following substances are restricted:

a) arsenic and its compounds;
b) lead and its compounds;
c) copper and its compounds;
d) zinc and its compounds;
e) organosilicon and its compounds;

f) cyanides;
g) flourides;
h) pesticides and their by-products not included in Schedule I;
i) beryllium and its compounds;
j) chromium and its compounds;
k) nickel and its compounds;
l) vanadium and its compounds;
m) containers and scrap metal;
n) radioactive wastes or other radioactive matter not included in Schedule I;
o) substances that by reason of their bulk would interfere with fishing.

3.3 ENVIRONMENTAL ASSESSMENT

The routine monitoring and assessment of potential effects on marine life of dredging/loading and dumping activities is carried out by Environmental Protection Service with input from Fisheries and Marine Service. In addition, a National Ocean Dumping Research Fund has been set up from which annual fund allocations are made to support research which may more accurately identify the concerns of ocean disposal, to clarify long-term environmental implications of dumping certain substances and identify the conditions under which such material may be dumped, and thereby assist in more effective administration of the Act.

Research proposals are submitted by private environmental consultant groups and research scientists and subsequently evaluated by RODAC on the basis of Regional research requirements and National priority guidelines. Final fund allocations are approved in Ottawa by a joint Ocean and Aquatic Science/Environmental Protection Service Committee based on the recommendations of the various RODAC Committees.

3.4 ENFORCEMENT OF THE ODCA

The Environmental Protection Service is responsible for policing ocean dumping activities to ensure that the provisions of the Act are complied with. The Minister of Environment has designated Ocean Dumping Inspectors in each Region whose responsibility is to investigate possible contraventions of the Act, inspect ocean dumping activities and, where appropriate, lay charges against the persons involved in the activity. Ocean Dumping Inspectors working out of the Permit Issuing Office also conduct periodic inspections and surveillance to ensure that dredging/loading and dumping operations carried out under a valid permit are conducted in accordance with the conditions outlined therein.

REFERENCES

Bezanson, D.S., C.M. Moyse and S.C. Byers. 1979. Research and related work on ocean dumping. An annotated bibliography. Ocean Dumping Report 2. Department of Fisheries and Oceans, Ottawa.

Canada. 1977. A summary of permits issued under the Ocean Dumping Control Act. Department of Fisheries and the Environment.

Canada. 1978. A summary of permits issued under the Ocean Dumping Control Act. Department of Fisheries and the Environment.

APPENDICES

APPENDIX I	Total Quantities Disposed of at Existing and Historical Dump Sites
APPENDIX II	Active and Inactive Dump Sites Located in British Columbia Coastal Waters
APPENDIX III	Abbreviations

APPENDIX I. TOTAL QUANTITIES DISPOSED OF AT EXISTING AND HISTORICAL DUMP SITES.

Dump Sites	Total Quantity Dumped (cubic metres)
1. SOUTHERN VANCOUVER ISLAND AND B.C. SOUTH COAST	
1	2 530 000
2	36 000
3	2 000 000
4	166 000
5	5 000
6	17 000
7	1 000 000
8	155 000
9	2 600 000
10	31 000
11	1 500
12	not known
13	100 000
14	300 000
15	40 000
16	not known
17	4 000
18	5 400
19	323 000
20	400
21	4 600
22	1 000
23	not known
24	13 000
25	360 000
26	not known
27	69 000
28	not known
29	17 000
30	535
31	46 000
32	57 000
33	not known
34	not known
35	92 000

36	345 000
37	23 000
38	not known
39	not known
40	107 000
41	3 800
42	not known
43	not known
44	20 000
45	140 000
46	not known
47	600
48	4 700
49	1 160 000
50	48 000
51	1 000
52	not known
53	not known
54	not known
55	not known
56	not known
57	not known
58	not known
59	1 500
60	not known
61	not known
62	3 000
63	15 000
64	14 000
65	130 000
66	80 000

2. NORTHERN VANCOUVER ISLAND AND B.C. CENTRAL COAST

67	390 000
68	1 000
69	23 000
70	not known
71	2 600 000
72	not known
73	31 000
74	37 000
75	15 000
76	not known

77	110 000
78	400
79	not known
80	31 000
81	80
82	5 000
83	48 000
84	35 000
85	not known
86	not known
87	not known
88	705 000
89	not known
90	not known
91	50 000
92	not known

3. QUEEN CHARLOTTE ISLANDS AND B.C. NORTH COAST

93	1 230 000
94	31 000
95	575 000
96	192 000
97	7 500
98	not known
99	1 500
100	not known
101	80 000
102	not known
103	not known
104	20 000
105	700
106	800

4. ISOLATED INCIDENTS

107	not known
108	not known
109	11 900
110	7 700
111	not known

Figure Ia. Ocean dump sites - Southern Vancouver Island and British Columbia South Coast.

Figure Ib. Ocean dump sites - Northern Vancouver Island and British Columbia Central Coast.

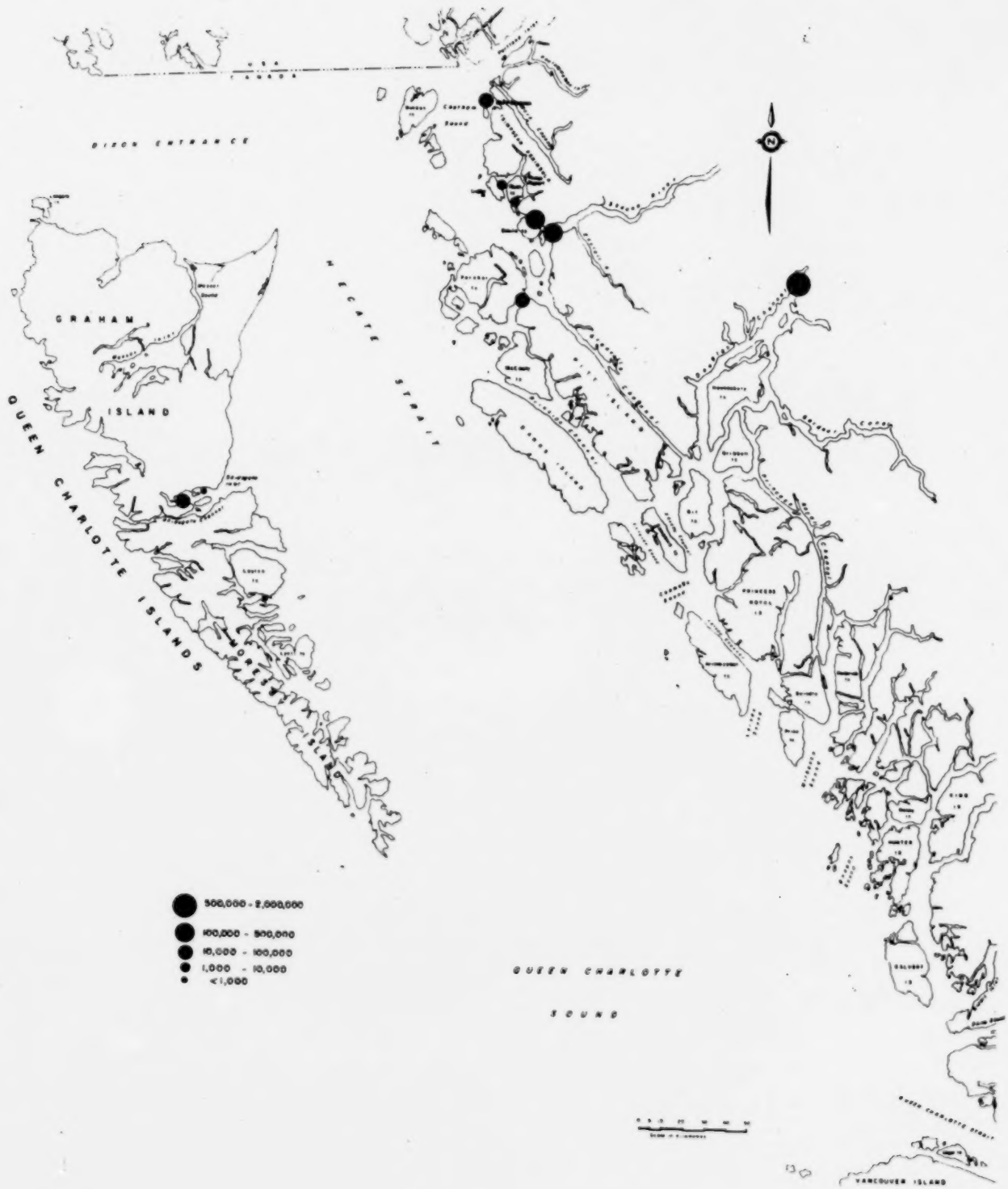

Figure Ic. Ocean dump sites - Queen Charlotte Islands and British Columbia North Coast.

Figure Id. Ocean dump sites - isolated incidents.

APPENDIX II

ACTIVE AND INACTIVE DUMP SITES LOCATED IN BRITISH COLUMBIA COASTAL WATERS

APPENDIX II. ACTIVE AND INACTIVE DUMP SITES LOCATED IN BRITISH COLUMBIA COASTAL WATERS.

1. SOUTHERN VANCOUVER ISLAND AND B.C. SOUTH COAST

Number	Site
1	Point Grey
2	"Mansens' Deep", Point Atkinson
3	Burrard Inlet, Harbour
4	Boulder Island, Indian Arm
5	Raccoon Island, Indian Arm
6	Annacis Island, Fraser River
7	Fraser River, South Arm
8	North Arm Jetty, Fraser River
9	Sand Heads, Main Arm, Fraser River
10	Sooke Harbour
11	Sooke Basin, Juan de Fuca Strait
12	Race Rocks, Juan de Fuca Strait
13	Pedder Bay, Juan de Fuca Strait
14	Quarantine Buoy, Juan de Fuca Strait
15	Site between Victoria and Esquimalt Harbour
16	Esquimalt Harbour
17	Cadboro Bay, Vancouver Island
18	Haro Strait
19	Coal Island, Saanich Peninsula
20	Swanson Channel
21	Satellite Channel
22	Patricia Bay, Saanich Inlet
23	Mill Bay, Saanich Inlet
24	Bamberton, Saanich Inlet
25	Duncan, Cowichan Bay
26	Fulford Harbour, Saltspring Island
27	Crofton, Stuart Channel
28	Shoal Islands, Stuart Channel
29	Chemainus, Stuart Channel
30	Ladysmith
31	Thetis and Kuper Islands
32	Porlier Pass, Dionisio Point
33	Degnen Bay, Gabriola Island
34	Silva Bay, Gabriola Island
35	Harmac, Nanaimo
36	Nanaimo Harbour
37	Departure Bay
38	Descanso Bay

39	South Snake Island
40	Five Fingers Island, Strait of Georgia
41	Nanoose
42	Strait of Georgia, East of Ballenas Island
43	Ballenas Channel
44	French Creek
45	Qualicum Beach
46	False Bay, Lasqueti Island
47	Denman Island
48	Comox
49	Powell River
50	Westview
51	Blubber Bay, Texada Island
52	Vananda Cove, Texada Island
53	Gillies Bar, Texada Island
54	Jervis Inlet, (various locations)
55	St. Vincent Bay
56	Vanguard Bay
57	Sechelt Rapids, Egmont Point
58	Beaver Island, Sechelt
59	Secret Cove, Sechelt
60	Wilbraham Point
61	Halfmoon Bay, Sechelt
62	Porpoise Bay, Sechelt Peninsula
63	Gibson's Landing, Shoal Island
64	Howe Sound, Port Mellon
65	Howe Sound, Woodfibre
66	Howe Sound, Squamish

2. NORTHERN VANCOUVER ISLAND AND B.C. CENTRAL COAST

Number	Site
67	Campbell River, Discovery Passage
68	Sutil Channel
69	Duncan Bay, Discovery Passage
70	Menzies Bay, Discovery Passage
71	Kelsey Bay, Johnstone Strait
72	Beaver Cove, Johnstone Strait
73	Port McNeill, Johnstone Strait
74	Alert Bay, Johnstone Strait
75	Kingcome Inlet
76	Pt. Hardy, Queen Charlotte Strait
77	Kains Island
78	Quatsino Sound
79	Pt. Alice, Neroutsos Inlet

80	Holberg Inlet
81	Holberg Inlet
82	Zeballos, Zeballos Inlet
83	Tahsis Inlet
84	Zuciarte Channel
85	Tofino, Clayoquot Sound
86	Ucluelet, Barkley Sound
87	Green Cove, Barkley Sound
88	Alberni Inlet
89	West Coast, off Barkley Sound
90	West Coast, off Cape Flattery
91	Ocean Falls, Cousins Inlet
92	Bella Coola

3. QUEEN CHARLOTTE ISLANDS AND B.C. NORTH COAST

Number	Site
93	Kitimat, Douglas Channel
94	Ogden Channel
95	De Horsey Island, Inverness Passage
96	Inverness Passage
97	Porpoise Harbour
98	Prince Rupert Harbour
99	Casey Cove, Digby Island
100	Brown Passage, Chatham Sound
101	Port Simpson, Tsimpsean Peninsula
102	Dixon Entrance
103	Masset, Queen Charlotte Islands
104	Queen Charlotte City, Skidegate Inlet
105	Skidegate Channel, B.C.
106	Selwyn Inlet, B.C.

4. ISOLATED INCIDENTS

Number	Site
107	North Pacific Ocean
108	North Pacific Ocean
109	Portland Canal
110	Observatory Inlet
111	Pauline Cove, Herschel Island, Yukon

INFORMATION ON ACTIVE DUMP SITES

1. Southern Vancouver Island and B.C. South Coast

Dump Site: POINT GREY
Number: 1
Co-ordinates: 49°15.40'N 123°22.10'W; 7.4 km off Point Grey
Depth: 231 metres
Chart: 3480
Usage: Active
Material: Silt, sand, mud, rock, gravel, construction debris, woodwastes

Comments

This dump site was designated by Ministry of Transportation in 1968. Information prior to December 1975 was the only available documented information on historical dumping incidents at Point Grey.

POINT GREY

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1939	19 125	silt, sand, gravel	False Creek	NHB	
1945	525	silt	Kitsilano Bridge	NHB	
	536	silt	Cambie Street Bridge	NHB	
	173	silt, mud	East of Cribin Channel	NHB	
1967 (Aug)	---	millwaste deadheads, debris, chips	M & B King Lumber L & K Lumber	NHB NHB	
1967 (Sep)	3825	dredging waste	West Indies Wharf by Arganaut Dredging	NHB	
1969	7560-9180	mud, silt	Burrard Bridge	NHB	
1971/72	---	clay	Pacific Centre	Gulf of Georgia	
1972 (Dec)	15 300	mud, silt	False Creek	NHB	
1973/74	328 109	---	---	Greenlees for DPW	
1974/75	156 825	---	---	Greenlees for DPW	

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1974/75	382 500	mud, silt, sand, logging waste	False Creek	Greenlees (other)	
1975	34 425	---	False Creek	DPW	
	30 600	"clean"	---	FRPD	
	1 530	---	False Creek	Dillingham	
1975 (Jun)	175 950	dredge material	False Creek	DOE (NHB)	
1975 (Dec)	1 148	silt, debris	Jib Sailing School	Dillingham	
1976	97 531	silt, sand	Fraser River	DPW	11
	7 600	silt, sand, woodwastes	Fraser River	Crown Zellerbach, Coast Wood	13
	39 925	sand, silt, gravel, shells, rip-rap	Granville Island	Central Mortgage	16
	17 813	silt, mud, sand, woodwastes	North Arm, Fraser River	MB, Vancouver Plywood	29
	5 351	silt, mud, sand	North Arm, Fraser River	CFP, Eburne	30
	5 000	woodwastes, silt, mud, sand	North Arm, Richmond	Greenlees	42
	458	woodwastes, silt, mud, sand	Fraser River	Pile Driving Terminal Sawmills	44
	917	woodwastes, silt, mud, sand	North Arm, Fraser River	Mainland Sawmills	45
	6 574	dredge material	Fisherman's Cove, West Vancouver	DPW	48
	3 800	mud, sand, gravel	Fraser River	Rivtow	119
	636	concrete pipe	Vancouver	Ocean Concrete	141
	6 400	sand, mud, woodwastes	False Creek	Bay Forest Products	169
	1 529	silt, sand	Fraser River	Hercules Dredging	172
	3 058	silt, mud, clay, gravel, rock	False Creek	Marathon Realty	178
1977	6 116	silt, mud, sand, woodwastes	North Arm, Fraser River	Rayonier Canada	35
	4 587	silt, mud, sand, woodwastes, concrete blocks	Fraser River	Weldwood	40
	994	woodwastes, silt, mud, sand	Fraser River	Terminal Sawmills	44
	8 410	silt, sand, gravel	Vancouver	Ocean Concrete	141
	2 446	sand, mud, woodwaste	Vancouver	Bay Forest Products	169
	18 000	silt, mud, clay, gravel, rock	False Creek	Marathon Realty	178

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	7 600	silt, mud, woodwastes	Fraser River	Crown Zellerback	180
	3 058	silt, mud, sand, woodwastes	North Arm, Fraser River	MB, Fraser River	196
	15 290	silt, mud, sand, woodwastes	North Arm, Fraser River	CFP, Eburne	208
	6 642	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Dillingham	238
	3 058	silt, mud, sand, woodwastes	North Arm, Fraser River	Rayonier Canada	282
	34 095	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Fraser River Pile Driving	296
	340 000	silt, clay, sand, woodwastes	North Arm, Fraser River	Rivcon Industries	322
	229 350	mud, sand, woodwastes	Burrard Inlet	Pioneer Grain Terminal	323
	6 120	clay, silt, gravel, rock	Coal Harbour	Coal Harbour Maritime	324
	3 800	woodwastes, silt, mud, sand	North Arm, Fraser River	Terminal Sawmills	325
	3 800	woodwastes, silt, mud, sand	North Arm, Fraser River	Mainland Sawmills	326
	1 147	mud, woodwastes	North Arm, Fraser River	Goldwood Industries	347
	6 000	silt, mud, sand, woodwastes	North Arm, Fraser River	Crown Zellerbach	356
	15 290	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	D.J. Byrne Construction Ltd.	367
1978	2 294	sand	Vancouver Harbour	Dillingham	238
	6 117	silt, mud, sand, woodwastes	North Arm, Fraser River	Rayonier Canada	282
	25 275	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Fraser River Pile Driving	296
	9 175	woodwastes, silt, mud, sand	North Arm, Fraser River	Terminal Sawmills	325
	4 590	woodwastes, silt, mud, sand	North Arm, Fraser River	Mainland Sawmills	326
	1 146	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Greenlees Pile Driving	327
	1 529	sand, mud, woodwastes	False Creek	Bay Forest Products	368
	2 141	silt, sand, gravel, concrete	Fraser River, Burrard Inlet, Granville Island	Ocean Construction	391
	16 055	silt, sand, mud, woodwastes	Fraser River	CFP, Eburne	394
	24 009	silt, sand, mud, woodwastes	North Arm, Fraser River	MB, Fraser River	416
	15 000	silt, sand, gravel	Vancouver Harbour and Fraser River Estuary	Valley Towing	450

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	8 529	sand, silt, gravel, rock	Vancouver Harbour and Fraser River Estuary	Dillingham	455
	11 000	sand, silt	North Arm, Fraser River	PWC	496
	3 060	woodwastes, silt, sand, mud	North Arm, Fraser River	Mainland Sawmills	509
	2 620	woodwastes, silt, sand, mud	North Arm, Fraser River	Terminal Sawmills	510
	28 255	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Fraser River Pile Driving	537
	2 295	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Rayonier Canada	569
	2 265	woodwastes, silt, mud	Vancouver Harbour	L & K Lumber	587
	3 820	silt, mud, sand, woodwastes	North Arm, Fraser River	Crown Zellerbach	605
	3 520	sand, mud, woodwastes	False Creek	Bay Forest Products	611
	43 800	clay, mud, silt, woodwastes	North Arm, Fraser River	North Fraser Harbour Commission	617
1979	841	sand, silt, gravel, rock	Vancouver Harbour and Fraser River Estuary	Dillingham	455
	2 360	woodwastes, silt, sand, mud	North Arm, Fraser River	Mainland Sawmills	509
	460	woodwastes, silt, sand, mud	North Arm, Fraser River	Terminal Sawmills	510
	23 635	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Fraser River	537
	7 650	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Rayonier Canada	569
	5 350	silt, mud, sand	North Arm, Fraser River	Weldwood	594
	765	woodwastes, sand, gravel, rock	Vancouver Harbour and Fraser River Estuary	Crown Zellerbach	605
	3 500	woodwastes, sand, mud	False Creek	Bay Forest Products	611
	16 500	sand, silt, gravel, woodwastes	North Arm, Fraser River	PW, North Fraser	616
	1 375	clay, silt, sand, gravel	Coal Harbour	D.J. Byrne	640
	6 652	sand, silt, mud, woodwastes	Fraser River Estuary	D.J. Byrne	642
	22 119	silt, sand, mud, woodwastes	North Arm, Fraser River	MB, Fraser River	664
	4 346	silt, sand, mud, woodwastes	North Arm, Fraser River	CFP, Eburne	666
	11 258	silt, sand, gravel	Fraser River Estuary	Valley Towing	673
	10 650	sand, silt, gravel, rock	Granville Island	Canadian Mortgage	686
	1 500	silt, mud, sand, woodwastes	North Arm, Fraser River	Crown Zellerbach	707
	18 300	sand, silt, mud	North Arm, Fraser River	FRPD	709
	3 450	sand, silt, gravel	North Arm, Fraser River	DPW	713

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1979	17 012	silt, mud, sand, woodwastes	Vancouver Harbour and Fraser River Estuary	FRPD	735
	760	woodwastes, silt, sand, mud	North Arm, Fraser River	Mainland Sawmill	762
	4 788	mud, sand	Snug Cove	DPW	764
	4 500	woodwastes, silt, sand, mud	North Arm, Fraser River	Vancouver Sawmill	785
	57 350	sand, silt, gravel, rock	Vancouver Harbour	Dillingham	808
	12 000	sand, silt, gravel, rock	Vancouver	Winvan Paving Ltd.	824
	1 500	sand, clay, silt	Coal Harbour	Vancouver Rowing Club	836
	5 940	sand, silt, gravel	North Vancouver	FRPD	844

Dump Site: "MANSENS' DEEP" POINT ATKINSON
Number: 2
Co-ordinates: 49°19.40'N 123°16.80'W
Depth: 120-150 metres
Chart: 3481
Usage: 1940 (possibly earlier) - 1970. Inactive.
Material: Human remains, refuse, cars, woodwaste, chemicals

Comments

This site was utilized for a variety of materials including a burial ground for people requesting burial at sea.

"MANSENS' DEEP" POINT ATKINSON

Year	Cubic Metres	Material	Origin	Agent
1940-1950	unknown	refuse	ships in harbour	---
1950s	unknown	cars	Japan	---
1950s	unknown	hog fuel	---	---
1959-1960	30 983	glacial till	Fisherman's Cove	DPW
1960s	unknown	tinned salmon	---	FMS
1965-1966	5 355	silt	Fisherman's Cove	Centennial

Dump Site:	BURRARD INLET HARBOUR
Number:	3
Co-ordinates:	49°17.80'N 123°06.00'W
Depth:	65 metres
Chart:	3482
Usage:	Inactive
Material:	Clean material, mud, silt, sand, construction debris

Comments

The following projects were completed for NHB by various dredging companies as well as DPW. Other isolated incidents of dumping which have occurred in Burrard Inlet include:

1967 - broken concrete and scrap steel from Second Narrows Bridge cast into water greater than 18 meters;

1965-1969 - silt from Saskatchewan Wheat Pool, North Vancouver, 95 563 cubic metres, pumped by suction dredge into deeper area of the harbour to the southwest, approximately 18-21 metres below the low water level;

1969-1972 - First Narrows dredging program by DPW, included approximately 1 529 000 cubic metres gravel which went to NHB stockpile. 68 800 cubic metres glacial till and 19 113 cubic metres rock were scattered on the west side of the inlet in deep water;

1970-1971 - DPW project at Neptune Terminals, approximately 267 575 cubic metres of dredged material was deposited in deeper water off Loch Katrine Bank;

1971 - maintenance dredging, Cambie Work Yard in False Creek, sidecast and disposed of in deeper water in False Creek.

BURRARD INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1946	3 491	silt	#1 Berth, #1 Jetty	NHB	
	4 542	silt, sand	E & W Berths, #3 Jetty	NHB	
1948	3 823	silt, sand	E & W Berths, West Indies Wharf	NHB	
1950	9 174	silt, sand	Ballantyne, LaPointe Piers and #1 Jetty	NHB	
1951	22 229	silt, sand	Ballantyne, LaPointe Piers and #1 Jetty	NHB	
1955	283	silt, mud	#1 Jetty, Dunlevy Avenue Wharf	NHB	
1956	2 205	sand	#1 Jetty, Dunlevy Avenue Wharf	NHB	
1957	92 423	soft mud	Centennial Pier	NHB	
1960	16 697	silt	LaPointe Pier, Berths 2, 5	NHB	
	1 529	silt	Ballantyne Pier	NHB	
1962	5 657	sand, silt	Home Oil and Northern Construction Co. Berths	NHB	
1964	4 204	overburden	#3 Jetty	NHB	
	31 727	conglomerate			
1967	2 294	---	West Indies Wharf	NHB	
1969	1 835	---	DL272 Neptune Terminal	NHB	
1970/71	172 471	---	West Vancouver, Phase I, by Northern Construction	DPW	
1971	6 116	dredgeate	Ballantyne Pier #1	NHB	
	38 225	dredgeate	Fisherman's Wharf	NHB	
	4 281	---	LaPointe Pier #4	NHB	
1972	---	---	LaPointe #7	NHB	
1973	237 841	overburden	Vancouver Terminal	NHB	
1975	1 150 000	---	RVYC, Coal Harbour	NHB	
	2292-3058	silt, mud	Burrard Terminals by Fraser River	NHB	
	4 587	---	Ocean Cement by Fraser River	NHB	
1976	24 464	woodwaste, sand, gravel, rock	Vancouver	Dillingham	17
1977	153 000	silt, sand, gravel	Neptune Shoal	DPW	15
	1 376	sand, mud	Burrard Inlet	McKenzie	289

Dump Site:	BOULDER ISLAND, INDIAN ARM
Number:	4
Co-ordinates:	49°18.85'N 122°56.20'W
Depth:	40 metres
Chart:	3484
Usage:	Inactive
Material:	Mud, clay, woodwastes

Comments

Little information is available regarding which materials were disposed of here or at the site off Raccoon Island in Indian Arm.

BOULDER ISLAND, INDIAN ARM

Year	Cubic Metres	Material	Origin	Agent
1969	76 450	mud, clay	Port Moody	FRPD
	59 631	mud	Pacific Coast Bulk	McKenzie
1970/75	5-6000/yr	---	Port Moody	McKenzie

Dump Site:	RACCOON ISLAND, INDIAN ARM
Number:	5
Co-ordinates:	49°20.77'N 122°54.58'W
Depth:	77 metres
Chart:	3485
Usage:	Inactive
Material:	Sediment

Comments

Used by NHB contractor for material from Ocean Cement.

Dump Site: ANNACIS ISLAND, FRASER RIVER
Number: 6
Co-ordinates: From LLW mark southwest of Annacis Island training wall.
Depth: 3.5 metres below LLW
Chart: 3488
Usage: Inactive
Material: Native material, Class "B"

Comments

Dredging across river at Fraser Surrey Container Terminal February-March 1976, with clamshell by FRPD for DPW.

Dump Site: FRASER RIVER, SOUTH ARM
Number: 7
Co-ordinates/Depth:

49°07.00'N	123°10.00'W;	73 metres
49°07.10'N	123°11.10'W;	6 metres
49°07.80'N	123°12.00'W;	11 metres
49°05.60'N	123°05.80'W;	2.6 metres
49°05.60'N	123°06.20'W;	11 metres
49°06.70'N	123°10.00'W;	
49°07.70'N	123°12.80'W;	6 metres
49°08.00'N	123°14.50'W;	

Chart: 3488
Usage: Active
Material: Sand, silt, mud, clay

FRASER RIVER, SOUTH ARM

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	162 400	sand, silt	Cannery Channel	DPW, Steveston	121
	6 100	sand, silt	Ladner	DPW, Ladner	137
1977	4 000	silt, mud, clay	Cannery Channel	DPW, Steveston	385
	487 564	silt, mud, sand	Cannery Channel	DPW, Steveston	192
	11 400	silt, sand	Ladner	DPW, Ladner	137
1978	80 000	mud, silt, clay	Ladner	DPW, Ladner	583
	100 000	silt, sand, mud	Cannery Channel	DPW, Steveston	570
	76 450	clay, silt, mud, sand	Steveston Harbour	DPW, Steveston	592
1979	50 000	silt, sand, mud	Cannery Channel	DPW, Steveston	570

Dump Site:	NORTH ARM JETTY, FRASER RIVER
Number:	8
Co-ordinates:	49°15.50'N 123°17.45'W
Depth:	37 metres
Chart:	3480
Usage:	Inactive
Material:	Silt, sand, mud, woodwastes

Comments

The following is the only documented information available on the historical dumping incidents at this site.

NORTH ARM JETTY, FRASER RIVER

Cubic Metres	Material	Origin	Agent
6 116 twice a year	woodwaste	Rayonier Canada, Marpole Division	McKenzie or FRPD
4 969 2-4 times a year	woodwaste	Rayonier Fraser St.	McKenzie or FRPD
6 116 2-4 times a year	woodwaste	Rayonier New West.	McKenzie or FRPD
10 703	woodwaste	MB, New West.	---
22 000 - 27 500	woodwaste	MB, Can. White Pine	---
2 290	woodwaste	MB, Van. Plywood	---
3 822	silt, mud	---	Rivtow
3 800 - 4 600	concrete	Fraser St. Bridge	D.J. Byrne
87 900	silt, sand, logs, fibres	Total estimate going to site	NFHC

Dump Site: SAND HEADS, MAIN ARM, FRASER RIVER
Number: 9
Co-ordinates: 49°06.00'N 123°19.50'W;
2.5 km from Sand Heads light
Depth: 44 metres
Chart: 3480 and 3488
Usage: Active
Material: Native material, sand, silt from maintenance dredging of navigation channels in main arm of Fraser River

Comments

Used since 1974, mainly by DPW Fort Langley Suction Dredge, approximately 1 500 000 cubic metres per year.

SAND HEADS, NORTH ARM, FRASER RIVER

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	413 307	sand, silt	Fraser River	DPW	11
	104 000	sand, silt	Fraser River	DPW	140
	1 681	mud, sand, gravel, rock	Fraser River	DPW	162
1977	946 000	sand, silt	Fraser River	DPW	140
	6 116	silt, sand, mud	Tsawwassen	BC Ferries	200
	21 788	sand, silt	Fraser River	BC Highways	248
	104 000	sand, silt	Fraser River	DPW	357
	5 218	sand	Tsawwassen	DPW	373
1978	5 427	silt, sand, gravel	Vancouver Harbour and Fraser Estuary	Valley Towing	450
	3 930	sand	Fraser River	BC Highways	608
1979	974 740	sand, silt	Fraser River	DPW	591
	13 730	sand	Fraser River	BC Highways	608
	8 940	sand, silt	Fraser River	Valley Towing	673
	2 523	sand, silt	Fraser River	FRPD	735

Dump Site:	SOOKE HARBOUR, SOUTH VANCOUVER IS.
Number:	10
Co-ordinates:	48°20.20'N 123°44.30'W; 3.2 km south of harbour entrance
Depth:	36 metres
Chart:	3641
Usage:	Inactive
Material:	Woodwaste, silt, mud

Comments

Small quantities of dredged material in the past 20-25 years; less than 765 cubic metres from Muir Creek, North Sooke and Cooper Cove, South Sooke. Sooke Timber dredged regularly until encouraged to use landfill site. In 1974, 30 580 cubic metres dredged from marina sites were disposed of at this location.

Dump Site:	SOOKE BASIN, JUAN DE FUCA STRAIT
Number:	11
Co-ordinates:	48°19.00'N 123°45.00'W
Depth:	155 metres
Chart:	3641
Usage:	Active
Material:	Mud, sand, gravel, woodwastes

Comments

Site established in 1976.

SOOKE BASIN, JUAN DE FUCA STRAIT

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	1 500	mud, sand, gravel, woodwastes	Sooke Basin	Sooke Forest Products	135

Dump Site: RACE ROCKS, JUAN DE FUCA STRAIT
Number: 12
Co-ordinates: 48°17.20'N 123°36.40'W;
5 km southwest of Race Rocks light
Depth: 182 metres
Chart: 3641
Usage: Inactive
Material: Heavy steelwire mesh

Comments

Site established in 1946.

Dump Site: PEDDER BAY, JUAN DE FUCA STRAIT
Number: 13
Co-ordinates: 48°19.85'N 123°32.00'W;
east of Manor Point
Depth: 36 metres
Chart: 3422
Usage: Inactive
Material: Mud, silt

PEDDER BAY, JUAN DE FUCA STRAIT

Year	Cubic Metres	Material	Origin	Agent
1967/68	11 470	mud, silt	Marina	---
1969	23 000 - 30 500	mud, silt	Marina	FRPD
1974/75	23 000 - 30 500	mud, silt	Marina	Greenlees
1975 (Feb-Mar)	26 000	mud, silt	Marina	FMS

Dump Site: QUARANTINE BUOY, JUAN DE FUCA STRAIT
Number: 14
Co-ordinates: 48°22.50'N 123°21.80'W;
7.4 km south of Victoria Harbour
Depth: 77 metres
Chart: 3422
Usage: Active
Material: Mud, clay, rock, woodwastes

Comments

The following information, mainly from FMS, indicated material was dumped at this site, but according to dredge companies part of the material was dumped outside the harbour off Macaulay Point. This site was designated by MOT in 1970.

QUARANTINE BUOY, JUAN DE FUCA STRAIT

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1972	---	---	Plumber Bay	Victoria Pile	
	---	---	Ocean Cement, Rock Bay	Victoria Pile	
	---	---	Home Oil Dock	Seaspan	
1973	---	---	Bay Street, Inner Harbour	Butler LaFarge	
	---	mud, clay, rock	Johnston Street Bridge	BC Tel, BC Hydro	
	---	sawdust, mud, bark	Lime Bay Shakes	Pacific Pile	
	6 185	mud	Esquimalt Harbour	Pacific Pile	
	500	logs	Esquimalt Harbour	Pacific Pile	
	1 911	rock	Ocean Cement, Rock Bay	Greenlees	
	65 750	mud, clay	Ocean Cement, Rock Bay	Greenlees	
	---	mud, clay, logs	Plumber Bay Sawmill	Pacific Pile	
	---	clay, mud	BCFP Mill, Harbour	D.J.B.	
1973/74	---	mud, clay, rock	West Bay Marina	Pacific Pile	
1974	---	oozing mud	Inner Harbour	Pacific Pile	
	7 645	---	Rock Bay	Greenlees	
	15 290	mud, clay	Rock Bay	Victoria Pile	
	3 800	rock	Rock Bay	Victoria Pile	
	18 348	clay	Blanshard & Pandora, Victoria	---	
	---	log waste	BCFP, Esquimalt	---	
	---	booming grounds	Victoria Plywood, Plumber Bay	---	
1975	some	---	Point Ellis Ferryslip	---	
	7 645	---	Fishing Harbour, Victoria	---	
	---	---	Fisherman's Float	Victoria Pile	
1973/75	15 290 per year	mud	LaGorge, Esquimalt	D.J. Byrne	

per year

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	5 400	clay, mud, woodwastes	Victoria	BCFP, Victoria	22
	1 529	clay, sand	Victoria	Oliver Equipment	91
	760	woodwastes, mud, bark, sawdust	Esquimalt Harbour	Plumper Bay Sawmills	182
1977	38 225	clay, sand	Victoria	Oliver Equipment	91
	15 290	clay, sand	Victoria	Oliver Equipment	330
	6 116	clay, mud, woodwastes	Victoria	BCFP, Victoria	345
	12 232	silt, clay, sand, gravel, rock	Victoria Harbour	Provincial Capital Commission	375
1978	21 400	silt, clay, sand, gravel, rock	Victoria Harbour	Provincial Capital Commission	375
	765	silt, sand, gravel	Vancouver Island	Ocean Construction	393
	7 000 tonnes	concrete	Victoria	Arrow Transportation Systems	471
	7 645	woodwastes, clay, mud	Victoria Harbour	BCFP, Victoria	560
1979	23 800 tonnes	rock, clay, sand, concrete	Victoria Harbour	Oliver Equipment	596
	7 600	silt	Esquimalt Harbour	DND	628
	1 687	silt	Manor Point	DND	629
	500	silt, sand, gravel	Victoria	BC Hydro	773
	3 000	silt, sand, gravel	Victoria	Ocean Construction	796
	5 000	silt, sand	Victoria	Cleansteel Products	820

Dump Site: SITE BETWEEN VICTORIA AND ESQUIMALT HARBOURS
Number: 15
Co-ordinates: 48°24.80'N 123°25.60'W; 1.6 km offshore
Depth: 32-40 metres
Chart: 3422
Usage: Inactive
Material: Mud, sand, silt, woodwaste, garbage

Comments

Designated site by MOT. Established 1953, discontinued 1973. Prior to 1960, Victoria City garbage was deposited daily at this site. Sanitary landfill site established in 1950s.

SITE BETWEEN VICTORIA AND ESQUIMALT HARBOURS

Year	Cubic Metres	Material	Origin	Agent
1960s	---	rock, mud	Hospital Rock	G. Jones
1960s	---	clay	Inner Harbour	G. Jones
1960s	---	log waste	BCFP	---
1964/65	5 500	silt, clay, organic	Shoal Harbour	McKenzie
1967/68	34 400	---	West Bay	FRPD (DPW)

Dump Site: ESQUIMALT HARBOUR
Number: 16
Co-ordinates: 48°26.30'N 123°26.50'W
Depth: 12 metres
Chart: 3422
Usage: Active
Material: Ammunition dump site, small arms and mortars

Comments

Used by Department of National Defense in calibration of ammunition from F. Jetty Naval Docks on west side of harbour.

Dump Site: CADBORO BAY, VANCOUVER ISLAND
Number: 17
Co-ordinates: 48°26.50'N 123°16.00'W; in Baynes Channel
Depth: 36 metres
Chart: 3422
Usage: Inactive
Material: Dredged material from Royal Victoria Yacht Club, approximately 4 200 cubic metres

Comments

Work done in June, 1972.

Dump Site: HARO STRAIT
Number: 18
Co-ordinates: 48°41.00'N 123°16.40'W
Depth: 231 metres
Chart: 3451
Usage: Active
Material: Silt, gravel, clay, mud, rock, gypsum, cement, iron ore

HARO STRAIT

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1877	3 822	silt, gravel, gypsum, cement, iron ore, clay, mud, rock	Saanich Inlet	Inland Cement	370
1979	1 600	clay, silt, mud, sand, gravel, rock, cement	Saanich Inlet	Inland Cement	663

Dump Site:	COAL ISLAND, SAANICH PENINSULA
Number:	19
Co-ordinates:	48°40.30'N 123°23.00'W; outside Tsehum Harbour
Depth:	38-41 metres
Chart:	3451
Usage:	Inactive
Material:	Mud, clay, silt

Comments

Dredged material from the following marina projects at Tsehum Harbour and Sidney was disposed of at this site. Site has been used occasionally since 1938, and has been active the last 20 years.

COAL ISLAND, SAANICH PENINSULA

Year	Cubic Metres	Material	Origin	Agent
1959/60	3 058	---	Sidney	Pacific Pile (DPW)
1967/68	38 225	silt	Blue Heron Bay T.H.	FRPD (DPW)
1970/71	7 645	mud, clay	Tsehum Harbour	FRPD
1971/72	52 750	mud	Tsehum Harbour	McKenzie
1969/75	9 174	mud	Maintenance T.H.	FRPD
1969/75	91 740	mud, etc.	New marinas	FRPD
1969/75	46-54 000	mud, etc.	Capital City Y.C.	Greenlees
1973	---	---	Swartz Bay Ferry	CPR
1973/74	---	---	Sidney	Victoria Pile
1973/74	15 290	mud	Tsehum Harbour	Pacific Pile
1974	6 116	---	Vancouver Island Marine Co. T.H.	---
1974/75	42 812	mud, rock	Tsehum Harbour	FRPD (DPW)
1975	--- 1 911	--- ---	Blue Heron Bay T.H. Shoal Harbour	DPW FRPD

Dump Site: SWANSON CHANNEL
Number: 20
Co-ordinates: 48°43.00'N 123°14.00'W
Depth: 291 metres
Chart: 3452
Usage: Inactive
Material: Silt and sand

Comments

Maintenance dredging at Patricia Bay, Institute of Ocean Sciences.

SWANSON CHANNEL

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	400	mud, sand, gravel	Patricia Bay	DPW	167

Dump Site: SATELLITE CHANNEL
Number: 21
Co-ordinates: 48°42.05'N 123°29.65'W
Depth: 81 metres
Chart: 3451
Usage: Inactive
Material: Mud, silt, rock

Comments

Part of Pat Bay Oceanographic Institute project (38 - 46 000 cubic metres).

Dump Site:	PATRICIA BAY, SAANICH INLET
Number:	22
Co-ordinates:	48°39.25'N 123°29.45'W
Depth:	117 metres
Chart:	3451
Usage:	Inactive
Material:	Mud, silt, rock

Comments

Part of Pat Bay Oceanographic Institute project; building of new docks (less than 765 metres). This load was dumped illegally. The remainder of the material (15 290 cubic metres) was disposed of at the Crofton dump site.

Dump Site:	MILL BAY, SAANICH INLET
Number:	23
Co-ordinates:	48°38.90'N 123°31.85'W
Depth:	58 metres
Chart:	3451
Usage:	Inactive
Material:	Woodwastes and mud

Comments

Extent of dredging and disposal activity is unknown. B.C. Forest Products log dump for 25 years.

Dump Site:	BAMBERTON, SAANICH INLET
Number:	24
Co-ordinates:	48°35.20'N 123°30.75'W; west of Brentwood Bay
Depth:	81 metres
Chart:	3451
Usage:	Inactive
Material:	Mud, clay

Comments

Site used to dispose of 1 529 cubic metres in 1975 and 11 468 cubic metres in 1976. 1976 project side cast into deeper water.

Dump Site: DUNCAN, COWICHAN BAY
Number: 25
Co-ordinates: 48°44.20'N 123°34.40'W;
outside harbour, south of Separation Point
Depth: 54 metres
Chart: 3452
Usage: Inactive
Material: Woodwastes, mud, silt

Comments

BCFP used the site for approximately 10 years. In the early 1970s, 360 000 cubic metres dredged from Cowichan Doman Ltd. and deposited at this site.

Dump Site: FULFORD HARBOUR, SALTSPRING ISLAND
Number: 26
Co-ordinates: Unknown
Usage: Inactive

Comments

Extent of activity in this area unknown.

Dump Site: CROFTON, STUART CHANNEL
Number: 27
Co-ordinates: 48°52.40'N 123°37.50'W;
in Stuart Channel
Depth: 203 metres
Chart: 3590
Usage: Inactive
Material: Woodwastes, mud, silt

CROFTON, STUART CHANNEL

Year	Cubic Metres	Material	Origin	Agent
1960/75	15 290	log boom debris	BCFP	FRPD
1967/68	---	log boom debris	BCFP	Dillingham
1970s	15 290	woodwastes	BCFP	Gulf Contr.
1975	22 935	woodwastes	BCFP	FRPD
	15 290	mud, silt	Marina	---

Dump Site: SHOAL ISLANDS, STUART CHANNEL
Number: 28
Co-ordinates: 49°54.00'N 123°38.60'W
Depth: 95 metres
Usage: Inactive

Dump Site: CHEMAINUS, STUART CHANNEL
Number: 29
Co-ordinates: 48°56.20'N 123°40.00'W
Depth: 72 metres
Chart: 3453
Usage: Inactive
Material: Woodwastes from log storage and berthing areas

CHEMAINUS, STUART CHANNEL

Year	Cubic Metres	Material	Origin	Agent
Annual	6 900 - 9 000	log storage debris	M & B Booming Grounds	---
1975	7 645	log storage debris	M & B Booming Grounds	Gulf Contr.

Dump Site: LADYSMITH
Number: 30
Co-ordinates: 48°58.60'N 123°46.05'W
Depth: 49-52 metres
Chart: 3471/3453
Usage: Inactive
Material: Bark and mud debris

Comments:

There were 535 cubic metres dredged from berthing areas and log storage areas.

Dump Site: THETIS AND KUPER ISLANDS
Number: 31
Co-ordinates: 48°57.70'N 123°40.00'W
Depth: 36-43 metres
Chart: 3452
Usage: Inactive
Material: Mud, silt, sand

Comments:

In 1974-1975, 45 870 cubic metres of mud and silt were dredged from Telegraph and Preedy Harbours and disposed of at this site.

Dump Site: PORLIER PASS, DIONISIO POINT
Number: 32
Co-ordinates: 49°00.00'N 123°38.20'W;
4.3 km southeast of Dionisio Point on Galiano Island
Depth: 176 metres
Chart: 3453
Usage: Active
Material: Clay, silt, sand, woodwastes

PORLIER PASS, DIONISIO POINT

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	32 500	clay, sand, silt	Crofton	BCFP, Crofton	585

Dump Site: DEGNEN BAY, GABRIOLA ISLAND
Number: 33
Co-ordinates: 49°07.40'N 123°46.60'W
Depth: 45 metres
Chart: 3453
Usage: Inactive

Dump Site: SILVA BAY, GABRIOLA ISLAND
Number: 34
Co-ordinates: 49°09.10'N 123°40.50'W
Depth: 45 metres
Chart: 3453
Usage: Inactive

Dump Site: HARMAC, NANAIMO
Number: 35
Co-ordinates: 49°08.68'N 123°51.30'W
Depth: 47-76 metres
Chart: 3456
Usage: Inactive
Material: Gravel, woodwastes

Comments:

During construction of the Harmac mill, approximately 76 450 cubic metres of gravel was disposed of at this site. Approximately 15 290 cubic metres was dredged annually from log storage areas and docking facilities. From 1972-1975, material containing less than 5% fibre was dredged and dumped at this site.

Dump Site: NANAIMO HARBOUR
Number: 36
Co-ordinates: 49°10.32'N 123°54.25'W
Depth: 45 metres
Chart: 3456
Usage: Inactive
Material: Sandstone, mud, log boom debris

HARMAC, NANAIMO

Year	Cubic Metres	Material	Origin	Agent
1950	305 800	sandstone	Harbour	G. Jones
1973/74	15 290	silt, sand	Harbour	FRPD
1975	22 935	booming waste	Harbour	FRPD (DPW)

Dump Site:	DEPARTURE BAY
Number:	37
Co-ordinates:	49°12.40'N 123°55.35'W
Depth:	36 metres
Chart:	3456
Usage:	Inactive
Material:	Mud, silt, rock

Comments:

In 1973-1974, 15 000 - 23 000 cubic metres of sediment from the B.C. Ferry Terminal was disposed of at this site.

Dump Site:	DESCANSO BAY
Number:	38
Co-ordinates:	49°10.69'N 123°52.70'W
Depth:	130 metres
Chart:	3456
Usage:	Inactive

Comments:

Site used in last 15 years.

Dump Site:	SOUTH SNAKE ISLAND
Number:	39
Co-ordinates:	49°12.40'N 123°53.75'W
Depth:	155 metres
Chart:	3456
Usage:	Inactive

Comments:

Site used in last 15 years.

Dump Site: FIVE FINGER ISLAND, STRAIT OF GEORGIA
Number: 40
Co-ordinates: 49°15.20'N 123°54.60'W
Depth: 271 metres
Chart: 3456
Usage: Active
Material: Silt, sand, mud, rock, gravel

FIVE FINGER ISLAND, STRAIT OF GEORGIA

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	45 780	silt, sand, mud	Nanaimo Harbour	Dorman Pulp	456
1979	60 442	silt, mud, sand, fine bark debris, flyash	Harmac	MacMillan Bloedel	648

Dump Site: NANOOSE
Number: 41
Co-ordinates: 49°15.82'N 124°06.55'W
Depth: 36 metres
Chart: 3577
Usage: Inactive

Comments:

Fraser River Pile Driving removed approximately 3 800 cubic metres of sand and gravel from the harbour area.

Dump Site: STRAIT OF GEORGIA, east of BALLENAS IS.
Number: 42
Co-ordinates: 49°22.00'N 123°57.00'W
Depth: 360 metres
Chart: 3590
Usage: Inactive
Material: Light ammunition

Comments:

Established as DND ammunition disposal site in 1945 and use discontinued in 1965.

Dump Site: BALLENAS CHANNEL
Number: 43
Co-ordinates: 49°18.90'N 124°13.50'W
Depth: 72 metres
Chart: 3590
Usage: Inactive

Comments:

Used by Gulf Contractors in last 10 years.

Dump Site: FRENCH CREEK
Number: 44
Co-ordinates: 49°22.50'N 124°19.00'W
Depth: 200 metres
Chart: 3590
Usage: Active

FRENCH CREEK

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	20 000	sand, gravel	French Creek	DPW, French Creek	514

Dump Site: QUALICUM BEACH
Number: 45
Co-ordinates: 49°21.90'N 124°26.30'W
Depth: 36 metres
Chart: 3579
Usage: Inactive
Material: Sand, gravel

Comments:

In 1965/66 Texada Rentals dredged 140 000 cubic metres by clam shell and dumped off beach.

Dump Site: FALSE BAY, LASQUETI ISLAND
Number: 46
Co-ordinates: 49°29.40'N 124°21.70'W
Depth: 36 metres
Chart: 3590
Usage: Inactive

Comments:

Gulf Contractors dredged material from mooring areas and disposed in nearest deep hole (greater than 36 metres).

Dump Site: DENMAN ISLAND
Number: 47
Co-ordinates: 49°27.60'N 124°33.90'W
Depth: 220 metres
Chart: 3590
Usage: Active
Material: Silt, sand, gravel, rock

Comments:

Gulf Contractors dredged material from mooring areas and disposed at 47 metres at 49°28.00'N, 124°44.60'W in past 10 years.

DENMAN ISLAND

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	600	silt, sand, gravel, rock	Denman Island	DPW, Denman Is.	571

Dump Site: COMOX
Number: 48
Co-ordinates: 49°41.70'N 124°44.50'W
Depth: 182 metres
Chart: 3590
Usage: Active

Comments:

Gulf Contractors and Fraser River Pile Driving disposed of dredged material in the 1960s in 36-40 metres at 49°38.80'N, 124°53.50'W. In 1972-1973, FRPD dredged 3 800 cubic metres of sediment and were requested to dispose of it in 445 metres at 49°40.20'N, 124°51.00'W.

COMOX

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	871	sand	Comox	DPW, Comox	374

Dump Site: POWELL RIVER*
Number: 49
Co-ordinates: 49°52.00'N 124°36.00'W
Depth: 140 metres
Chart: 3580/3579
Usage: Inactive
Material: Woodwastes, dredged material from marina

* As of 31 May, 1980, newly designated dump site in Malaspina Strait located at 49°45.00'N, 124°27.00'W.

Comments:

Varied use. Dump site used to range from 3-5 km offshore to 180 metres off river but most recently a site just off breakwater has been used. MacMillan Bloedel dumped varied amount annually until 1969. The following records were obtained regarding the historical use of the site.

POWELL RIVER

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1948	190 000	mud, rock	Pulpmill Wharf	G. Jones	
1964	765 400	sawdust	Pulpmill	FRPD	
1966	38 225	chips	Pulpmill	FRPD	
1968/69	15 290	woodwastes (dumped between Harwood and Texada Island, 90% landfill)	Pulpmill	D.J. Byrne	
1974/75	14 526	sand, gravel	Boat Harbour	DPW	
1977	7 645	woodwastes, silt, mud, sand, gravel	Powell River	MacMillan Bloedel	346
1978	7 260	woodwastes, silt, mud, sand, gravel	Powell River	MacMillan Bloedel	346
	14 830	woodwastes, silt, mud, sand, gravel	Redonda Island	MacMillan Bloedel	550
1979	13 383	woodwastes, silt, mud, sand, gravel	Powell River	MacMillan Bloedel	550
	112 000	woodwastes, silt, mud, sand, gravel	Powell River	MacMillan Bloedel	765

Dump Site: WESTVIEW
Number: 50
Co-ordinates: 49°50.00'N 124°32.00'W
Depth: 36 metres
Chart: 3579
Usage: Inactive
Material: Gravel, sand

WESTVIEW

Year	Cubic Metres	Material	Origin	Agent
1974/75	45 000	sand, gravel	Westview	FRPD
1975	2 200 - 3 000	gravel	Westview	D.J. Byrne

Dump Site: BLUBBER BAY, TEXADA ISLAND
Number: 51
Co-ordinates: 49°48.00'N 123°37.00'W
Depth: 12 metres
Chart: 3591
Usage: Active
Material: Limestone, rock

Comments:

Domtar Chemical dredge loading and berthing areas annually.

BLUBBER BAY, TEXADA ISLAND

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	400	limestone	Blubber Bay	Domtar Chem.	19
1978	535	limestone	Blubber Bay	Domtar Chem.	472

Dump Site:	VANADA COVE, TEXADA ISLAND
Number:	52
Co-ordinates:	49°45.80'N 124°33.20'W
Depth:	Greater than 36 metres
Chart:	3579
Usage:	Inactive

Comments:

Project completed in early 1970s.

Dump Site:	GILLIES BAR, TEXADA ISLAND
Number:	53
Co-ordinates:	49°39.80'N 124°28.90'W
Depth:	45 metres
Chart:	3579
Usage:	Inactive

Comments:

Project completed by Gulf Contractors in last 10 years.

Dump Site:	JERVIS INLET (various locations)		
Number:	54		
Co-ordinates/Depth:			
Skyes Island	49°48.90'N	124°05.50'W;	88 metres
Princess Royal Reach	49°49.60'N	124°00.20'W;	180 metres
Deserted Bay	50°05.40'N	123°45.30'W;	180 metres
Princess Louise Inlet	50°10.50'N	123°50.20'W;	157 metres
Queens Reach, Slave Ck	50°10.30'N	123°57.70'W;	180 metres
Chart:	3589		
Usage:	Inactive		

Comments:

Projects completed by Gulf Contractors in late 1960s.

Dump Site:	ST. VINCENT BAY
Number:	55
Co-ordinates:	49°49.80'N 124°04.80'W; behind Sykes Island
Depth:	90 metres
Chart:	3589
Usage:	Inactive
Material:	Log boom debris, woodwastes

Comments:

Dredging and dumping done by Gulf Contractors for MacMillan Bloedel.

Dump Site:	VANGUARD BAY
Number:	56
Co-ordinates:	49°45.50'N 124°05.50'W
Depth:	234 metres
Chart:	3589
Usage:	Inactive
Material:	Maintenance dredging at marina

Comments:

Gulf Contractors used this site. Caustic soda dumped in an emergency in 1975.

Dump Site:	SECHELT RAPIDS, EGMONT POINT	
Number:	57	
Co-ordinates/Depth:	49°44.10'N 123°53.40'W;	36 metres
	49°45.00'N 123°54.70'W;	54 metres
	49°45.30'N 123°55.70'W;	63 metres
	49°46.30'N 123°43.20'W;	54 metres
Chart:	3589	
Usage:	Inactive	
Material:	Woodwaste, gravel	

Comments:

Gulf Contractors used these sites in early 1970s. Dredged material from Egmont Point was disposed of at this site in December, 1975.

Dump Site:	FRANCIS PENINSULA, SECHELT
Number:	58
Co-ordinates:	49°37.70'N 124°05.40'W
Depth:	47 metres
Chart:	3535
Usage:	Inactive
Material:	Dredged material from marina site

Comments:

Gulf Contractors used this site.

Dump Site:	SECRET COVE, SECHELT
Number:	59
Co-ordinates:	49°31.50'N 123°58.50'W
Depth:	72 metres
Chart:	3590
Usage:	Inactive
Material:	Mud, silt

Comments:

In 1970s, 1 529 cubic metres of mud and sediment dredged from marina by Gulf Contractors and disposed of at the site.

Dump Site:	WILBRAHAM POINT
Number:	60
Co-ordinates:	49°30.90'N 123°58.00'W
Depth:	109 metres
Chart:	3590
Usage:	Active
Material:	Silt, mud, sand, gravel, rock

WILBRAHAM POINT

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	3 000	silt, mud, sand, gravel, rock	Pender Harbour	Hercules Dredging	54

Dump Site: HALFMOON BAY, SECHELT
Number: 61
Co-ordinates: 49°30.20'N 123°55.70'W
Depth: 72-81 metres
Chart: 3590
Usage: Inactive
Material: Mud, silt

Comments:

Gulf Contractors used this site in early 1970s.

HALFMOON BAY, SECHELT

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	2 140	silt, sand	Priestland Cove	FRPD	580

Dump Site: PORPOISE BAY, SECHELT PENINSULA
Number: 62
Co-ordinates: 49°32.80'N 123°47.00'W
Depth: 162 metres
Chart: 3579
Usage: Inactive
Material: Sediment

Comments:

Dredged material from Osborn Marina was disposed of at this site in early 1970s.

Dump Site: GIBSON'S LANDING, SHOAL CHANNEL
Number: 63
Co-ordinates: 49°24.50'N 123°29.10'W
Depth: 88 metres
Chart: 3586
Usage: Active
Material: Mud, sand, gravel

Comments:

In early 1960s, approximately 7 500 cubic metres of mud and glacial till were dredged at a marina site and disposed of in 90-99 metres at 49°25.00'N, 123°28.00'W. In the late 1960s, 765 cubic metres of material from Langdale Ferry Terminal was disposed of at the same site.

GIBSON'S LANDING, SHOAL CHANNEL

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	6 880	mud, sand, gravel	Gibson's Landing	Gibson's Landing Boatworks	348

Dump Site: HOWE SOUND, PORT MELLON
Number: 64
Co-ordinates: 49°31.00'N 123°28.20'W
Depth: 201 metres
Chart: 3586
Usage: Active
Material: Woodwastes, sand, gravel, rock

Comments:

Canadian Forest Products dredged and dumped 3 400 cubic metres of woodwastes and mud in 212 metres, northwest of Woolridge Island, December, 1975.

HOWE SOUND, PORT MELLON

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	3 823	silt, sand	Hillside	Ocean Constr.	142
	3 058	woodwastes, sand, gravel, rock	Port Mellon	CFP, Pt. Mellon	376
1979	3 830	woodwastes, sand, gravel, rock	Port Mellon	CFP, Pt. Mellon	807

Dump Site: HOWE SOUND, WOODFIBRE
Number: 65
Co-ordinates: 49°38.50'N 123°14.00'W
Depth: 230 metres
Chart: 3586
Usage: Active
Material: Woodwastes, sand, gravel, rock

HOWE SOUND, WOODFIBRE

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	6 600	woodwaste, sand, gravel, rock	Mamquam Channel	Weldwood Empire	12
	8 000	woodwaste, sand, gravel, rock	Woodfibre	Rayonier, Woodfibre	20
	23 189	mud, gravel	Stawamus River	DPW, Mamquam	36
1977	2 400	woodwaste, sand, gravel, rock	Mamquam Channel	Weldwood Empire	12
	15 290	woodwaste, silt, mud, sand	Mamquam Channel	MB, Stawamus River	233
	8 562	woodwaste, sand, gravel, rock	Woodfibre	Rayonier, Woodfibre	343
1978	11 500	woodwaste, sand, gravel, rock	Woodfibre	Rayonier, Woodfibre	588
1979	4 128	woodwaste, silt, mud, sand	Stawamus River	MB, Squamish	417
	26 760	woodwaste, sand, gravel, rock	Woodfibre	Rayonier, Woodfibre	460
	15 000	woodwaste, silt, mud, sand	Stawamus River	MB, Stawamus River	631
	1 350	woodwaste, silt, mud, sand	Squamish	L K Lumber	708
	4 817	woodwaste, sand, gravel, rock	Woodfibre	Rayonier, Woodfibre	819

Dump Site: HOWE SOUND, SQUAMISH
Number: 66
Co-ordinates: 49°39.70'N 123°11.70'W
Depth: 144-149 metres
Chart: 3586
Usage: Inactive
Material: Clay, sand, silt, mud, woodwaste

Comments:

New site designated off Woodfibre in 1976.

HOWE SOUND, SQUAMISH

Year	Cubic Metres	Material	Origin	Agent
Annually until 1972	19 - 22 900	sediment	Govt. Dock Approach Channel	DPW
Prior to 1974	Some	---	Britannia	---
Twice/year	9 174	---	Weldwood Canada	FRPD
1975	26 757	sandy	Lumber Terminals	FRPD
1974/75	19 877	---	---	Greenlees (DPW)

2. Northern Vancouver Island and B.C. Central Coast

Dump Site: CAMPBELL RIVER, DISCOVERY PASSAGE
Number: 67
Co-ordinates/Depth: 50°00.00'N 125°12.70'W to
50°04.00'N 125°14.50'W 41-45 metres
50°03.80'N 125°14.70'W; 75 metres
49°57.50'N 125°07.50'W; 182 metres
49°58.00'N 125°07.00'W; 182 metres
Chart: 3594/3591
Usage: Active
Material: Mud, sand, gravel, rock, woodwastes

Comments:

Site varied according to tidal conditions.

CAMPBELL RIVER, DISCOVERY PASSAGE

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1950s	76 450	gravel	Iron mine	G. Jones	
1959/60	91 740	sand, gravel	Townsite	B.C. Bridge & Dredging	
1972	7 450	sand	Townsite	Dillingham	
1973	190 000	sand, gravel	Townsite	G. Jones	
1977	7 600	mud, sand, gravel	Campbell River	DPW	118
	13 000	silt, sand, gravel	Campbell River	B.C. Highways	183
	764	silt, mud, woodwastes	Campbell River	Raven Lumber Company	291

Dump Site: SUTIL CHANNEL
Number: 68
Co-ordinates: 50°05.80'N 125°08.80'W
Depth: 198 metres
Chart: 3591
Usage: Active
Material: Mud, sand, gravel, rock

SUTIL CHANNEL

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	920	mud, sand, gravel, rock	Heriot Bay	DPW	572

Dump Site:	DUNCAN BAY, DISCOVERY PASSAGE
Number:	69
Co-ordinates:	50°05.00'N 125°16.40'W
Depth:	95 metres
Chart:	3594/3556
Usage:	Inactive
Material:	Woodwaste from log storage and berthing areas

Comments:

In 1975, 22 900 cubic metres of dredged material from Elk Falls was dredged and disposed of at this site by Dillingham. Material currently disposed of at landfill site.

Dump Site:	MENZIES BAY, DISCOVERY PASSAGE
Number:	70
Co-ordinates:	50°07.30'N 125°20.05'W
Depth:	99 metres
Chart:	3594
Usage:	Inactive
Material:	Log boom debris, wood chips, mud

Comments:

Dredged material currently disposed of at landfill site.

Dump Site: KELSEY BAY, JOHNSTONE STRAIT
Number: 71
Co-ordinates: 50°25.00'N 125°57.00'W
Depth: 36 metres
Chart: 3595
Usage: Inactive
Material: Mud, sediment, log storage debris

Comments:

The following incidents of dumping were recorded at this site.

KELSEY BAY, JOHNSTONE STRAIT

Year	Cubic Metres	Material	Origin	Agent
1950/60	3 000	log waste	Mill	G. Jones
1960s	2 600 000	sandsill	Mill pipeline (some landfill)	G. Jones
1960s	7 645	sediment, rock	Ferry Terminal	FRPD (DPW)

Dump Site: BEAVER COVE, JOHNSTONE STRAIT
Number: 72
Co-ordinates: 50°33.25'N 125°51.08'W;
between Lewis Point and Telegraph Cove
Depth: 153 metres
Chart: 3569
Usage: Inactive
Material: Woodwaste, bark and debris

Comments:

Site used by Crown Zellerbach, Canfor and Gulf Contractors in early 1970s.

Dump Site: PORT MCNEILL, JOHNSTONE STRAIT
Number: 73
Co-ordinates: 50°35.80'N 125°02.25'W
Depth: 40 metres
Chart: 3569
Usage: Inactive
Material: Sediment, rock, woodwastes

Comments:

The following records were obtained regarding historical usage of this disposal site.

PORT MCNEILL, JOHNSTONE STRAIT

Year	Cubic Metres	Material	Origin	Agent
1967/68	22 900	sediment	Marina	Gulf Contr.
1974	7 645	---	Marina	Gulf Contr.
annually to 1974	---	log waste	Log booms	D.J. Byrne

Dump Site: ALERT BAY, JOHNSTONE STRAIT
Number: 74
Co-ordinates: 50°31.10'N 126°54.20'W
Depth: 36 metres
Chart: 3659
Usage: Inactive
Material: Sand, gravel, silt, clay

Comments:

In 1970, 30 500 cubic metres of sediment from the harbour was disposed of at this site. Garbage was previously disposed of north of the harbour. The newly designated dump sites in Johnstone Strait are located at:

50°33.50'N 126°48.00'W (near Alert Bay)
50°27.80'N 126°04.80'W (southern Johnstone Strait)

Dump Site: KINGCOME INLET
Number: 75
Co-ordinates: 50°55.00'N 126°13.00'W
Depth: 128 metres
Chart: 3578
Usage: Active
Material: Silt, woodwastes

KINGCOME INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	15 290	silt, woodwaste	Kingcome Inlet	Bay Forest Products	209

Dump Site: PORT HARDY, QUEEN CHARLOTTE STRAIT
Number: 76
Co-ordinates: Outside harbour
Depth: Greater than 30 metres

Comments:

Historically, dredged material from the Port Hardy area was disposed of at various locations outside the harbour limits.

Dump Site: KAINS ISLAND
Number: 77
Co-ordinates: 50°27.70'N 128°07.40'W
Depth: 91 metres
Chart: 3617
Usage: Active
Material: Spent sulphite liquor

Comments:

In order to maintain water quality levels in Neroutsos Inlet, spent sulphite liquor was periodically barged out of Quatsino Sound.

KAINS ISLAND

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	1.1×10^8 litres	spent sulphite liquor	Pt. Alice	Rayonier	27

Dump Site: QUATSINO SOUND
Number: 78
Co-ordinates: 50°28.50'N 127°50.00'W
Depth: 99 metres
Chart: 3617
Usage: Active
Material: Woodwastes

QUATSINO SOUND

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	382	woodwastes	Mahatta River	Rayonier	194

Dump Site: PORT ALICE, NEROUTSOS INLET
Number: 79
Co-ordinates: 50°22.80'N 127°27.20'W
Depth: Greater than 36 metres
Chart: 3617
Usage: Inactive
Material: Log storage waste

Comments:

Refuse disposed of at landfill site.

Dump Site: HOLBERG INLET
Number: 80
Co-ordinates: 50°35.00'N 127°35.00'W
Depth: 73 metres
Chart: 3617
Usage: Active
Material: Sand, gravel, woodwastes

Comments:

In 1970, 30 500 cubic metres of dredged material from wharf area was deposited at 50°34.00'N, 127°34.00'W in 36 metres of water.

HOLBERG INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	153	sand, gravel woodwastes	Coal Harbour	Rayonier	157

Dump Site: HOLBERG INLET
Number: 81
Co-ordinates: 50°38.70'N 127°59.00'W
Depth: 55 metres
Chart: 3617
Usage: Active
Material: Woodwastes

HOLBERG INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	76	woodwastes	Holberg Inlet	Rayonier	158

Dump Site: ZEBALLOS, ZEBALLOS INLET
Number: 82
Co-ordinates: 49°58.00'N 126°51.00'W
Depth: 162 metres
Chart: 3663
Usage: Active
Material: Gravel, woodwastes

ZEBALLOS, ZEBALLOS INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	3058	gravel, woodwastes	Zeballos Inlet	DPW	28
1977	1529	gravel, woodwastes	Zeballos Inlet	DPW	28

Dump Site: TAHSIS INLET
Number: 83
Co-ordinates: 49°51.60'N 126°39.60'W
Depth: 199 metres
Chart: 3663
Usage: Active
Material: Clay, silt, mud, bark

TAHSIS INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	600	mud, sand, gravel, rock	Tahsis Inlet	Tahsis Co.	120
1977	4 587	clay, silt, mud, bark	Tahsis Inlet	Tahsis Co.	187
1978	8 170	woodwastes, clay	Tahsis Inlet	Tahsis Co.	415
	3 825	bark, silt, clay, sand, gravel	Tahsis, Zeballos	Tahsis Co.	634
1979	30 450	woodwastes, clay	Tahsis Inlet	Tahsis Co.	832

Dump Site: ZUCIARTE CHANNEL
Number: 84
Co-ordinates: 49°39.00'N 126°29.00'W
Depth: 345 metres
Chart: 3663
Usage: Active
Material: Mud, sand, gravel, woodwastes

ZUCIARTE CHANNEL

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	1 529	woodwastes, mud, sand, gravel	Muchalat Inlet	Tahsis Co.	73
	1 000	woodwastes, mud, sand, gravel	Muchalat Inlet	Tahsis Co.	344
1978	7 650	woodwastes, mud, silt, sand	Muchalat Inlet	Tahsis Co.	634
1979	24 315	woodwastes, mud, silt, sand	Muchalat Inlet	Tahsis Co.	634

Dump Site:	TOFINO, CLAYOQUOT SOUND
Number:	85
Co-ordinates:	49°07.70'N 126°59.60'W; off Vargas Island
Depth:	26-36 metres
Chart:	3640
Usage:	Inactive

Comments:

Herring carcasses were disposed of at this site in 1974.

Dump Site:	UCLUELET, BARKLEY SOUND
Number:	86
Co-ordinates:	Newcombe Channel
Depth:	Greater than 36 metres
Chart:	3627
Usage:	Inactive

Comments:

BCFP used site to dispose of dredged material from sorting grounds.

Dump Site:	GREEN COVE, BARKLEY SOUND
Number:	87
Co-ordinates:	48°59.10'N 124°59.30'W
Depth:	Greater than 36 metres
Chart:	3627
Usage:	Inactive

Comments:

BCFP used site to dispose of dredged material from sorting grounds.

Dump Site: ALBERNI INLET
Number: 88
Co-ordinates: 49°12.00'N 124°49.30'W; south of Polly Point
Depth: 55 metres
Chart: 3609
Usage: Active

Comments:

For approximately 10 years prior to 1970, dredged material was disposed of at Polly Point (49°13.00'N, 124°49.45'W). Then, for a short time, the majority of dredged material went to the landfill site at Johnson Island. From 1973, dredged material has been disposed of at the above dump site (the coarser fraction still goes to Johnson Island).

ALBERNI INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1960	76 450	log debris	---	McKenzie	
1960	7-14 000	---	---	McClelland	
1963/64	6 300	sediment	Dock	McKenzie	
1971/72	61 000	---	Assembly Wharf	Dillingham	
	52 000	woodwaste	Pulpmill	MB, Alberni	
1970s	4 587	gravel	Marina	---	
1974/75	15 290	---	Alpulp	MB, Alberni	
1976	52 521	silt, mud, sand, woodwastes	Pt. Alberni Harbour	MB, Alberni	14
	3 800	clay, silt, mud, sand	Pt. Alberni	Pt. Alberni Harbour Commission	153
	3 823	silt, sand, gravel	China Creek	Pt. Alberni Harbour	39
1977	27 981	silt, mud, sand, woodwastes	Pt. Alberni Harbour	MB, Alberni	14
	57 335	woodwastes, sand, mud	Pt. Alberni Harbour	DPW, Alberni	179
	92 057	silt, sand, mud, woodwastes	Pt. Alberni Harbour	MB, Alberni	353
	12 232	clay, silt, sand, gravel	Somass River	DPW, Pt. Alberni	369
1978	25 993	clay, silt, sand, gravel	Somass River	DPW, Pt. Alberni	369
1979	5 400	silt, sand	Alberni Inlet	PWC	595
	122 320	silt, mud, sand, woodwastes	Pt. Alberni	MB, Pt. Alberni	607
	8 500	clay, silt, gravel	Alberni Inlet	PWC	612
	6 000	clay, silt, gravel	Fisherman's Harbour, Pt. Alberni	PWC	821
	64 226	silt, mud, sand, woodwastes	Pt. Alberni	MB, Pt. Alberni	826

Dump Site: WEST COAST, OFF BARKLEY SOUND
Number: 89
Co-ordinates: 48°50.00'N 126°50.00'W;
approx. 50 nautical miles southwest of Tofino
Depth: 810 metres
Chart: L3001
Usage: Inactive
Material: Ammunition

Comments:

Used for dumping of unwanted explosives after the war and obsolete ammunition and arms in post-war years. It was established in 1945 and area disused in 1965.

Dump Site: WEST COAST, OFF CAPE FLATTERY
Number: 90
Co-ordinates: 48°12.50'N 127°00.00'W;
approx. 70 nautical miles southwest of Barkley Sound
Depth: 2 500 metres
Chart: L3001
Usage: Inactive
Material: Ammunition

Comments:

This site not used as extensively as previous one and not frequently since 1965. Site has not been used since 1970.

Dump Site: OCEAN FALLS, COUSINS INLET
Number: 91
Co-ordinates: 52°21.10'N 127°42.70'W
Depth: 55 metres
Chart: 3720
Usage: Active
Material: Fibre, silt, woodwastes

Comments:

Area has previously been used by Ocean Falls Corporation to dispose of dredge woodwastes.

OCEAN FALLS, COUSINS INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	49 549	fibre, silt	Cousins Inlet	Ocean Falls Co.	483

Dump Site: BELLA COOLA
Number: 92
Co-ordinates: 51°22.70'N 126°50.00'W; North Bentinck Arm
Depth: 252 metres
Chart: 3730
Usage: Active
Material: Silt

Comments:

Material dredged from dock area is disposed of annually.

3. Queen Charlotte Islands and B.C. North Coast

Dump Site: KITIMAT, DOUGLAS CHANNEL
Number: 93
Co-ordinates: 53°58.00'N 128°41.50'W
Depth: 176 metres
Chart: 3743
Usage: Active
Material: Silt, sand, gravel

KITIMAT, DOUGLAS CHANNEL

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1966-68	14 500	sediment	Townsite	Horie & Tynan	
1969	1 150 000	sediment	Eurocan	---	
Annual	7 645	sand, gravel	Yacht Basin	---	
1975	3 - 4 000	sediment	Hartley Bay	Rivtow	
1977	30 580	silt, sand, gravel	Kitimat Arm	Rivtow	290
1979	15 000	silt, mud	Alcan Site	Alcan	589
	12 200	silt, mud, gravel	Kitimat Harbour	Rivtow	593

Dump Site: OGDEN CHANNEL
Number: 94
Co-ordinates: 53°54.00'N 130°16.00'W
Depth: 267-388 metres
Chart: 3927
Usage: Active
Material: Silt, sand, gravel

OGDEN CHANNEL

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	30 962	silt, sand, gravel	Oona River	DPW	195

Dump Site: DE HORSEY ISLAND, INVERNESS PASSAGE
Number: 95
Co-ordinates: 54°08.20'N 130°07.00'W
Depth: 7.2 metres
Chart: 3713
Usage: Inactive
Material: Gravel, mud

DE HORSEY ISLAND, INVERNESS PASSAGE

Year	Cubic Metres	Material	Origin	Agent
1953	575 000	gravel	De Horsey Island	G. Jones

Dump Site: INVERNESS PASSAGE
Number: 96
Co-ordinates: 54°11.00'N 130°11.50'W
Depth: Less than 11 metres
Chart: 3713
Usage: Inactive
Material: Silt

INVERNESS PASSAGE

Year	Cubic Metres	Material	Origin	Agent
1953/54	190 000	silt	Caspaco Cannery	G. Jones
Dredged annually until 1970s	1 - 2 000	silt	Caspaco Cannery	G. Jones

Dump Site: PORPOISE HARBOUR
Number: 97
Co-ordinates: 54°14.50'N 130°18.40'W
Depth: 24 metres
Chart: 3701
Usage: Active
Material: Silt, clay, mud, woodwastes

PORPOISE HARBOUR

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	5 000	mud, silt, woodwastes	Porpoise Harbour	CanCel	34
1978	2 294	silt, mud, clay	Porpoise Harbour	B.C. Packers	459

Dump Site:	PRINCE RUPERT HARBOUR
Number:	98
Co-ordinates:	South of Digby Island
Material:	City garbage

Comments:

Historical records show that city garbage was barged to this site for disposal. In the 1930s a sanitary landfill site was established.

Dump Site:	CASEY COVE, DIGBY ISLAND
Number:	99
Co-ordinates:	54°16.90'N 130°22.20'W
Depth:	20 metres
Chart:	3701
Usage:	Inactive
Material:	Log storage waste

Comments:

1 000 - 1 500 cubic metres of dredged material deposited at this site.

Dump Site:	BROWN PASSAGE, CHATHAM SOUND
Number:	100
Co-ordinates:	54°18.50'N 130°45.50'W
Depth:	180 metres
Chart:	3989
Usage:	Inactive
Material:	Heavy steel wire mesh, fish offal, ammunition

Comments:

This site established by MOT in 1946, but officially disused now. After World War II, U.S. forces based at Watson Island disposed of excess and unwanted ammunition at this site (quantities unknown). In the early 1950s, fish offal was removed in scows when fish plant inoperative.

Dump Site: PORT SIMPSON, TSIMPSEAN PENINSULA
Number: 101
Co-ordinates: Off Cannery site
Depth: 36 metres
Chart: 3702
Usage: Inactive
Material: Silt, mud, gravel, rock

PORT SIMPSON, TSIMPSEAN PENINSULA

Year	Cubic Metres	Material	Origin	Agent
1967/68	80 000	sediment	Cannery	McKenzie
1971	—	sediment	Cannery	Rivtow

Dump Site: DIXON ENTRANCE
Number: 102
Co-ordinates: 54°17.20'N 132°16.50'W
Depth: 208 metres
Chart: 3802
Usage: Active
Material: Sand, gravel

Dump Site: MASSET, QUEEN CHARLOTTE ISLANDS
Number: 103
Co-ordinates: 54°00.00'N 132°09.00'W
54°07.00'N 132°13.00'W
Depth: 36 metres
Chart: 3804
Usage: Inactive
Material: Sediment

Comments:

Dredging has occurred during the past 10 years, by DPW, to maintain the harbour.

Dump Site: QUEEN CHARLOTTE CITY, SKIDEGATE INLET
Number: 104
Co-ordinates: 53°14.63'N 132°03.20'W
Depth: 36 metres
Chart: 3806
Usage: Inactive
Material: Silt, clay, woodwastes

QUEEN CHARLOTTE CITY, SKIDEGATE INLET

Year	Cubic Metres	Material	Origin	Agent
1967/68	17 500	silt, clay	Q.C. harbour	Pacific Pile
1972	unknown	woodwastes	---	MacMillan Bloedel
1960-70	unknown	woodwastes	---	Crown Zellerbach
1974	765 909 tonnes	woodwastes sediment	--- Ferry terminal	Rivtow

Dump Site: SKIDEGATE CHANNEL
Number: 105
Co-ordinates: 53°08.90'N 132°15.30'W
Depth: N/A
Chart: 3806
Usage: Active
Material: Gravel, sand, rock

SKIDEGATE CHANNEL

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	700	gravel, sand, rock	Skidegate Channel	DPW	536

Dump Site: SELWYN INLET
Number: 106
Co-ordinates: 52°52.20'N 131°45.50'W
Depth: 183 metres
Chart: 3807
Usage: Active
Material: Sand, gravel

SELWYN INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	765	sand, gravel	Louise Narrows	DPW	513

4. Isolated Incidents

Dump Site: NORTH PACIFIC OCEAN
Number: 107
Co-ordinates: 48°25.00'N 126°20.00'W
Depth: 910 metres
Chart: L3001
Usage: Active
Material: Baroid Ballast: 66% barium sulphate

NORTH PACIFIC OCEAN

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	902 tonnes	barium sulphate	Esquimalt	Canadian Marine Drilling Ltd.	55

Dump Site: NORTH PACIFIC OCEAN
Number: 108
Co-ordinates: 49°26.00'N 131°43.00'W;
160 nautical miles southwest of Vancouver Is.
Depth: 3 000 metres
Usage: Active

Comments:

The disabled No. 55 HATSUE MARU of the TAIHEIYO Fish Company of Japan was towed to the above location and sunk by demolition.

NORTH PACIFIC OCEAN

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	360 tonnes	disabled vessel	Cape St. James	Taiheiyo Fish Co	684

Dump Site: PORTLAND CANAL
Number: 109
Co-ordinates: 55°54.00'N 130°00.00'W
Depth: 127 metres
Chart: 3933
Usage: Active
Material: Silt, sand

PORTLAND CANAL

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1977	11 850	silt, sand	Portland Canal	Granduc	199

Dump Site: OBSERVATORY INLET
Number: 110
Co-ordinates: 55°07.00'N 129°57.00'W
Depth: 420 metres
Chart: 3933
Usage: Active

OBSERVATORY INLET

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1978	7 645	sand, silt, gravel	Kincolith	DPW	497

Dump Site: PAULINE COVE,
HERSCHEL ISLAND, YUKON
Number: 111
Co-ordinates: 69°34.50'N 138°54.00'W
Depth: 4 metres
Usage: Active
Material: Coal dust, salt

Comments:

The deposit of coal dust and salt on the ice surface was part of an experiment being conducted by Canadian Marine Drilling Ltd. to weaken the ice and allow for an early breakout.

PAULINE COVE

Year	Cubic Metres	Material	Origin	Agent	Permit No.
1976	4 500	coal dust	---	Canadian Marine Drilling Ltd.	328
1978	60 960	coal dust	---	Canadian Marine Drilling Ltd.	441
	45 450	salt	---	Canadian Marine Drilling Ltd.	442

APPENDIX III

ABBREVIATIONS

APPENDIX III. ABBREVIATIONS

BCFP	British Columbia Forest Products
CFP	Canadian Forest Products
CPR	Canadian Pacific Railway
Dillingham	Dillingham Corporation Canada Ltd.
D.J. Byrne	D.J. Byrne Construction Ltd.
DND	Department of National Defense
DOE	Department of Environment
DPW	Department of Public Works
FMS	Fisheries and Marine Service
FRPD	Fraser River Pile Driving Co. Ltd.
Greenlees	Greenlees Piledriving Co. Ltd.
Gulf Contr.	Gulf Contractors
Gulf of Georgia	Gulf of Georgia Towing Co. Ltd.
G. Jones	George E. Jones & Associates Ltd.
McClelland	McClelland Barge and Marine Ways Ltd.
McKenzie	McKenzie Barge and Marine Ways Ltd.
NHB	National Harbours Board
NFHC	North Fraser Harbour Commission
Ocean Constr.	Ocean Construction
Pacific Pile	Pacific Pile Driving Co. Ltd.
PWC	Public Works Canada
Rivtow	Rivtow Straits Ltd.
Seaspan	Seaspan International Ltd.
Victoria Pile	Victoria Pile Driving Co. Ltd.